

Impacts of Acculturative Stress and Substance Use on the Mental Health of
University of Michigan Students

by

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Abstract

International students are confronted with a unique set of stressors that research has shown may make them more susceptible to certain mental health issues than a student from the United States. The aim of this project was to examine how ethnicity and citizenship status were associated with various factors that affect how mental health issues are worsened, triggered, or attenuated. Acculturative stress was hypothesized as a trigger and substance use was theorized as a coping mechanism. The end goal was to inform the University of Michigan how they could better aid their international students, who have gone to great lengths to be able to study in this country. Participants were 687 Caucasian American, Asian American, and East Asian international University of Michigan students who responded to mental health, substance use, and acculturative stress survey items. It was found that East Asian international students experienced higher levels of acculturative stress than their U.S. counterparts, but that there were no significant differences between groups in terms of other mental health outcomes. Caucasian Americans also reported higher substance use than the other two groups. Therefore, although international students reported higher levels of acculturative stress, this was not shown to be related to increased mental health or substance use issues.

Impacts of Acculturative Stress and Substance Use on the Mental Health of University of Michigan Students

In the past decade, the number of international students on United States (U.S.) college campuses has increased by more than thirty percent, with over one million international students comprising a little more than five percent of the total student population (Daigle, Hoffman & Johnson, 2018; Hirai, Frazier & Syed, 2015; Martin & Dyer, 2017). A majority of these students hail from East Asia, with approximately one-third coming from China (Daigle et al., 2018; Martin & Dyer, 2017). The number of students experiencing mental health issues on college campuses is also growing (Gallagher, 2009; Mistler, Reetz, Krylowicz & Barr, 2012; Wood, 2012). Although both the number of students experiencing mental health issues and the number of international students has increased on college campuses, limited research has yet to connect the two. International students on campuses are confronted with a unique set of stressors that have the potential to make them more susceptible to certain mental health issues compared to students born in the United States. In this Thesis, ethnicity and citizenship status will be examined in terms of how they correlate with various factors that trigger, worsen or attenuate mental health issues. Ultimately, the aim of this research is to inform the University how to better aid their international student population, who have gone to great lengths in order to study here.

Mental Health

Prevalence of mental health issues in U.S. colleges. College counseling center directors nation-wide have demonstrated serious concern in the past ten years over the disturbing rise in mental health issues among students on their respective campuses (Gallagher, 2009; Mistler et al. 2012; Wood, 2012). Recent research indicates that about one-third of all college freshman

experience mental health problems and that roughly twenty to fifty percent of all undergraduate students experience at least one mental health disorder (Auerbach et al., 2016; Bruffaerts et al., 2018; Mistler, et al., 2012; Oswald et al., 2018). The most common mental health issues on campus are anxiety (affecting roughly forty percent of students) and depression (affecting roughly thirty-six percent of students) (Center for Collegiate Mental Health, 2018; Mistler et al., 2012). These two health issues, along with social anxiety, have been showing consistent increases since 2010 (Center for Collegiate Mental Health, 2018). Since 1990, the number of college students who reported suicidal thoughts and clinical depression has increased by three-fold, and similar self-harming thoughts and behaviors have been steadily increasing (Center for Collegiate Mental Health, 2018; Wood, 2012). In addition to the suffering brought on by mental health issues themselves, dropout rates among college students experiencing mental health concerns are also two-times higher than their peers, and mental health issues often contribute to a 0.20-0.30 reduction in GPA (Bruffaerts et al., 2018). Despite these growing concerns, only around sixteen percent of college students are receiving treatment for mental health issues (Auerbach et al., 2016). This low rate may be partly due to opinions regarding the quality of university health services, as even twenty percent of counseling center directors deem their own center's psychiatric and psychological services to be unsatisfactory (Mistler et al., 2012).

College-specific mental health triggers. There are many factors that can explain why mental health concerns are so prevalent on college campuses. With three-fourths of mental health conditions presenting before the age of 24, students may first experience mental health issues in college (James, 2017). About seventeen percent of students with mental health disorders were diagnosed for the first time in college (Auerbach et al., 2016). The environment of a college campus can itself also trigger mental health issues. Upon entering college, many students are

presented with the challenge of being on their own for the first time in their lives, sometimes very far away from their family and friends. This can lead students to experience a lack of social support and unprecedented stress (Auerbach et al., 2016). The experience of living in close quarters with then-strangers can also lead to interpersonal conflict (Auerbach et al., 2016). In addition, new challenges such as being exposed to more frequent situations involving alcohol and drugs, as well as more rigorous academic demands, are contributing factors that may lead to increased rates of anxiety and depression among college students (James, 2017). Although these factors have been long-standing issues on college campuses, more recent phenomena could explain why the number of college students experiencing mental health issues is increasing. One postulation is that with the current college generation being very internet-oriented, students have lower frustration tolerance and a limited ability to delay gratification (James, 2017). Additionally, as the years progress and college tuitions rise to new levels, this puts more intense financial pressures on students, which could likely be worsening their stress (Wood, 2012). Stress among this generation of students can also be derived from issues surrounding sexual and gender identity, a topic which more focus has been attributed to as of late (Kadison & DiGeronimo, 2004). Substance abuse instances are also rising, which could be yet another factor affecting the growing mental health crisis on college campuses (Kadison & DiGeronimo, 2004). In combination, these factors result in never-before-seen rates of mental health issues, most notably depression and anxiety, among college-students.

Cultural differences in mental health among college students. One's cultural background and values heavily influence almost every aspect of mental health issues, as cultural norms shape what is considered pathological behavior (Canino & Alegria, 2008; Lewis-Fernandez & Kleinman, 1996). Culture influences a person's likelihood of experiencing certain

mental health issues. For example, certain psychological disorders, such as depression, have drastically different prevalence rates across countries and among different demographic groups within each country. These mental health challenges may be heavily influenced by environmental and social factors such as socioeconomic status or traumatic experiences (Canino & Alegría, 2008; U.S. Department of Health and Human Services, 2001). Culture also dictates the meanings people assign to their mental health issues and, therefore, how they perceive and explain said illness to others (such as those diagnosing them or support systems) (Canino & Alegría, 2008; Kleinman, 1988; Lewis-Fernandez & Kleinman, 1996). It also affects how an illness is manifested, which symptoms are expressed first, the resources individuals access for mental health care, and how someone responds to treatment (Canino & Alegría, 2008; Kleinman, 1988; Lewis-Fernandez & Kleinman, 1996; U.S. Department of Health and Human Services, 2001). Hence, due to cultural distinctions, international student on U.S. college campuses may develop, experience or treat mental health issues differently than their peers born in the United States.

Stigma. Stigma towards mental health issues pertain to the set of beliefs that cause people to discriminate against, shame or reject those with mental health concerns (U.S. Department of Health and Human Services, 2001). This can even translate to denial or embarrassment of one's own health issues, which is why people holding such beliefs often underutilize the mental health services they desperately require, making stigma highly dangerous (Lyndon, 2016). Although challenges regarding stigma towards mental health exists universally, it manifests differently among demographic groups. Research has found that people in the U.S. are more likely to hold stigmatized beliefs toward mental health issues if they are male, Asian, not a U.S. citizen, religious, of a minority population, or are of low socioeconomic status

(Eisenberg, Downs, Golberstein & Zivin, 2009; U.S. Department of Health and Human Services, 2001).

Previously, literature has demonstrated that people hailing from East Asian cultures may experience slightly greater levels of stigma, and so are more likely to desire social distance from people with mental health issues and deny a mental health problem exists among themselves or those close to them (U.S. Department of Health and Human Services, 2001; Zhang, Snowden & Sue, 1998). In such countries of origin, mental illness is thought to look disgraceful on family lineages and can serve as a roadblock to marriage or business deals, for those with the mental illness and their relatives (Ng, 1997; Sue & Morishima, 1982; U.S. Department of Health and Human Services, 2001). American Latinos and Asian Americans were also found to be more likely to discourage mental health treatment, use less mental health services and look down upon people who seek this help (Eisenberg et al., 2009; Ojeda & McGuire, 2006; Shea & Yeh, 2008; Zhang & Dixon, 2003). In terms of international students, they were found to be less likely than U.S. native students to access mental health services and more likely to hold negative attitudes about people with mental illnesses (Abe-Kim et al., 2007; Eisenberg et al., 2009; Suh, Nuenen & Rice, 2017). Some of international students' lack of desire to access treatment was partly due to the fact that mental health treatment use was uncommon in their home countries, although most students from East Asian countries also avoided treatment due to feelings of shame or embarrassment (Bai, 2016; Lee, Chan, Ditchman & Feigon, 2014). These factors, in addition to common sentiments among many international and non-international students alike that campus mental health services are under-resourced, under-staffed, and ineffective, discourage students from accessing needed resources. Thus, stigma appears to be a pernicious agent that can lead to a

widespread lack of mental health treatment, as many people may be afraid to get help due to either fear of social rejection or deep rooted negative sentiments about their own conditions.

Although this research has been successful in identifying various factors that can lead to increased or untreated mental health issues among college students, there still exists gaps in identifying how the college environment, cultural attitudes and stigma all intersect to influence the mental health of international students. It remains to be determined whether international students are more likely than their American counterparts to experience mental health issues. An additional gap in the literature is whether and how the stigma towards mental illness affects the experience of mental health issues in this group of students. Mental health issues are more likely to be underreported by international students, which could cause further harm if mental health issues are left untreated.

Acculturative Stress

Acculturation is defined as the modifications made by a person or group when they are exposed, for a continuous time, to a new, dominant culture and forced to adapt or assimilate (Berry, 1987). Acculturative stress then refers to the stress that occurs as a result of the negative psychological impacts of acculturation (Bai, 2016; Berry, 1987; Berry, 2006). This stress is often associated with immigrants or sojourners (which includes international students) and can have detrimental outcomes on mental health, often triggering feelings of anxiety, depression, marginality, or confusion (Berry, 1987). The various factors that contribute to acculturative stress could partially explain why international students on college campuses appear to experience mental health issues at higher rates than domestic students (Kim & Cronley, 2018). Thus, understanding the manifestation and contributing factors of acculturative stress is

extremely relevant for assessing the college experiences of international students and tailoring resources to benefit their experiences.

Factors contributing to acculturative stress.

Cultural norms. Drastic changes in cultural norms are often predictors of acculturative stress. Upon arriving in a new culture, people often experience a phenomenon called “culture shock,” in which they have difficulty adjusting to new cultural norms, values, and customs (Hirai et al., 2015; Poyrazli & Lopez, 2007). If this difficulty does not subside, acculturative stress is likely to ensue. Cultural changes that trigger this type of stress may include new languages, foods, illnesses, population demographics, traditions, norms and cultural rules for interacting, and political, economic, religious and academic institutions (Bai, 2016; Berry, 1987).

International students from East Asian cultures are more prone to experience acculturative stress than their international peers hailing from European cultures, as their cultures differ to a larger degree from American culture (Wang et al., 2012). For instance, in countries such as China and Taiwan that send a great deal of students to study in the U.S., the cultures are collectivist and incorporate Confucian values that emphasize modesty, interpersonal relationships, self-perfection, self-discipline, familial honor, respect of authority, prioritization of cooperation over competition and prioritization of hierarchical relationships over equality of relationships (Bai, 2016; Wang et al., 2012). Most of these values veer from traditional American values, which can result in international students from such cultures having a difficult time communicating and connecting with native people, as well as operating successfully in work and academic environments, leading to acculturative stress (Poyrazli et al., 2004; Wang et al. 2012). Likewise, values such as self-perfection, self-discipline and familial honor often are correlated with increased levels of academic pressure, which when combined with language barriers and a

lack of familiarity with the U.S. educational system, can lead to a significant amount of stress among international students hailing from East Asian countries (Bai, 2016). Language barriers make it not only difficult to absorb information both in and out of lectures, but also negatively impact students' writing assignments and participation in the classroom (Bai, 2016; Liao & Wei, 2014). Specifically, researchers theorize that Chinese international students experience the most academic stress, due to both the fear of failure deriving from familial and cultural pressures to succeed and the fact that the Chinese school system emphasizes rote memorization, which starkly contrasts with the critical-thinking focused educational style of U.S. colleges (Liao & Wei, 2014; Liu & Dunne, 2009). Additionally, East Asian cultures' emphasis on family can also impact acculturative stress, as many international students have reported feelings of guilt for leaving their family, and homesickness (Bai, 2016; Liu & Dunne, 2009).

Social experiences. Many international students on U.S. campuses travel overseas without knowing other individuals who will be residing in the same place as them. For this reason, they often begin their college careers feeling homesick, lonely and isolated (Bai, 2016; Lee et al., 2014). A main predictor of social isolation is lack of proficiency in the English language, as language barriers can prevent international students from successfully communicating with and developing close relationships with native students. It also deters international students from engaging in social events or joining groups such as clubs or teams (Bai, 2016; Poyrazli & Lopez, 2007). Thus, as a result of language barriers, international students often experience both marginalization and self-segregation. Aside from language barriers, international students from East Asia report that they had a hard time socializing with American students due to differences in social norms and conversation styles (Wang et al., 2012). Asian international students may also feel marginalized by the social scene adopted by

many American college students, specifically the binge-drinking culture and the way that American students tend to be more open about sexuality (Daigle et al., 2018; Yan & FitzPatrick, 2016). Despite the fact that many international students want to have intercultural friendships, they often are not able to achieve this goal. Issues of discrimination also contribute to social isolation, as international students may be wary of their American peers or, in turn, American students may express little interest in interacting with international students (Daigle et al., 2018). As a result of these phenomena, the social networks of international students are often comprised of mainly peers from their native country or other international students (Daigle et al., 2018). Despite having friends from their own or similar cultures, many international students still report that their social networks are smaller than the ones they had in their native country (Bai, 2016). Thus, these feelings of loneliness, lack of belonging, lack of family cohesion, and lack of social support or interaction may lead to a considerable amount of negative feelings, ultimately catalyzing experiences of acculturative stress.

Discrimination and bias. Perceived discrimination and bias are also important factors that influence the amount of acculturative stress experienced by someone going through the acculturation process. Research has demonstrated that international students experience more perceived discrimination than American students and that specifically students from Asian, African, and South American countries report higher levels of perceived discrimination than other international students (Poyrazli & Lopez, 2007; Wong, Tsai, Liu, Zhu & Wei, 2014). Although some acts of violence are committed against international students (usually off-campus), most of the discrimination comes in the form of verbal harassment, stereotyping and acts of biased exclusion (Charles-Toussaint & Crowson, 2010). Recently, international students on U.S. campuses have felt a growing concern over current xenophobic policies including the

travel bans in the U.S. (Cuellar, 2017). Feeling unwelcomed and anxious about the future of their legal status, international students may worry about hate crimes, deportation, and not being able to return to the U.S. if they go home during school breaks (Cuellar, 2017). All of these novel worries and experiences with discrimination may further compound experiences of acculturative stress.

Many Asian international students experience prejudice or discrimination based on their ability to speak English, their accent, specific country-based stereotypes, and racially-based stereotypes (Poyrazli & Lopez, 2007; Ruble & Zhang, 2013; Wong et al., 2014). Some students also report feeling discriminated against by their colleges' institutional policies and educational practices that may be perceived as racist (Bai, 2016; Wong et al., 2014). U.S. college students also perpetrate greater discrimination and prejudice towards Asian male international students compared to their Asian female counterparts, due to various East Asian cultures' very different versions of masculinity and femininity (Yan & FitzPatrick, 2016; Wong et al., 2014). In the U.S., masculinity is often associated with assertiveness, confidence and independence, which directly contrasts with Asian norms of conformity and modesty (Nguyen et al., 2012; Wong et al., 2014). Thus, although they may have previously been considered masculine, when Asian international students study in the U.S. and fail to conform to U.S. masculinity norms, they may experience disdain or harassment from their U.S. peers regarding their "inferior" form of masculinity and their romantic life may newly suffer (Nguyen et al., 2012; Wong et al., 2014). Thus, these feelings of disapproval and emasculation can further contribute to experiences of acculturative stress.

Effects of acculturative stress on mental health. As identified, there are a confluence of factors that give rise to acculturative stress, and it is highly relevant to examine how such

stress impacts the mental health of the international students experiencing it. Research demonstrates that acculturative stress is a main predictor of mental illnesses. High levels of stress make students more vulnerable to mental health concerns in part by lowering positive self-regard, identity confidence and self-esteem (Bai, 2016; Kim & Cronley, 2018; Poyrazli & Lopez, 2007). Acculturative stress can also cause students to feel alienated, homesick, fearful of discrimination, rejected, hopeless and could cause them to experience more cognitive failures (Bai, 2016; Kim & Cronley, 2018; Poyrazli & Lopez, 2007). All of these factors, especially when coupled with an underutilization of mental health resources (with twenty-seven percent of international students not aware of mental health services on campus), can contribute to the high levels of psychological distress seen (Daigle et al., 2018; Han, Luo, Jacobs & Jean-Baptiste, 2013). Because of this, on average, forty-five percent of international students are clinically depressed (a prevalence fourteen percent higher than U.S. peers) and twenty-nine percent are clinically anxious (nine percent higher than U.S. peers) (American College Health Association, 2015; Han et al., 2013; Kim & Cronley, 2018; Lee et al., 2014; Suh et al., 2017). Of this extremely vulnerable population, roughly thirty-nine percent of students were moderately distressed, and five percent reported being highly distressed, both experiences stable over a lengthy period of time (Hirai et al., 2015; Suh et al., 2017). East Asian students were found to experience these mental health concerns at a higher percentage than other international student populations, as research found international students from collectivist countries with emphasis on conformity were more at risk of experiencing these mental health problems, as they experienced higher degrees of acculturative stress (Berry, 1987).

The likelihood of international students experiencing mental health concerns as a result of acculturative stress is also influenced by factors such as age, gender, intercultural interaction

experiences, coping strategies, social habits, personality variables, and pre-arrival distress levels (Berry, 1987; Wang et al., 2012). Due to these factors, East Asian, and in particular, Chinese international students, may be prone to higher levels of mental health concerns. Chinese international students have been associated with: higher trait anxiety, higher perfectionist discrepancy, and higher levels of prejudice than students of other nationalities (Wang et al., 2012) At the same time, they have also been associated with lower English language capabilities, lower levels of self-esteem, lower self-appraisal of their problem-solving abilities, and lower perceived social support than other international students (Wang et al., 2012). It is also interesting that female international students were more likely to experience psychological distress. However, they were also more likely to speak with a mental health professional or college counselor about their feelings (Daigle et al., 2018). In addition, those migrating to the U.S. at a younger age (before the age of fourteen, specifically) were more likely to have an easier time adapting and thus, experienced less acculturative stress (Xiao, Liu, Yao & Wang, 2019). With international college students migrating to the U.S. when they are typically around 17-23 years old, it is believed that they experience greater levels of acculturative stress than youth who migrate at younger ages (Xiao et al., 2019).

Despite the wide breadth of research focused on acculturative stress and mental health among international students, there are still many unanswered questions. This study seeks to identify the factors most heavily associated with acculturative stress and negative mental health outcomes among East Asian international students in the U.S. The study also seeks to identify major risk factors contributing to acculturative stress so that recommendations can be made to alleviate some of the adversity and hardship international students face.

Substance Use

In the U.S., the demographic group with the most individuals consuming alcohol is Caucasians (about fifty-seven percent) and the group with the least is Asians (about thirteen percent; Sudhinharaset, Wigglesworth & Takeuchi, 2016). In addition, socioeconomic status appeared to be a factor affecting alcohol usage. People of higher financial status reported drinking more frequently, but people of lower financial status were more likely to binge drink (Sudhinharaset et al., 2016). College students, however, consist of a group that both drinks frequently, and binge drinks. About eighty percent of college students have a drink at least once over the course of a year, with about forty-five percent binge drinking at one point, twenty percent qualifying for alcohol dependence or abuse and fourteen percent admitting to binge drinking at least 10 alcoholic beverages at one point in their college career (Hunt, Martens, Wang & Yan, 2017; Yan & FitzPatrick, 2016). Caucasian college students, similar to the national average, reported among the greatest alcohol use, with Asian students drinking the least amount of alcohol (Hunt et al., 2017; Presley, Meilman & Leichliter, 2002). East Asian international students appeared to drink less alcohol than both Caucasian peers in U.S. universities and also college-aged peers from their respective countries (Newman, Ding & Feng, 2017).

In terms of tobacco and illicit drug use, students from East Asia studying in both their home countries and in the U.S. were more likely to use tobacco than Caucasian students in the U.S., but less likely to use illicit drugs (Daigle et al., 2018; Sa, Seo, Nelson & Lohrmann, 2013; Vivancos, Abubakar & Hunter, 2009). Interestingly enough, a much higher proportion of international East Asian students reported smoking cigarettes than college-aged peers from their

home countries (Sa et al., 2013). Currently in the literature, it is unclear whether tobacco use functions as a common coping response to acculturative stress.

Alcohol. There are many psychological, social and cultural reasons why international students may or may not choose to drink alcohol. However, data on the alcohol consumption of international students is somewhat conflicting, as percentages of both international students and students studying in their respective countries who drink alcohol vary widely (Balogun, Koyanagi, Stickley, Gilmour & Shibuya, 2014; Wang et al., 2016). In terms of reasons for increased alcohol consumption among international students, upon arriving to the United States for college, U.S. social norms and negative coping mechanisms may have a large effect. In terms of social factors, some international students may be more likely to drink due to desires to fit in with American college drinking culture and socialize with non-international peers (this was more prevalent among men; Kim & Cronley, 2018; Wang et al., 2016). Not only were international students who wanted to embrace American culture more likely to drink, but also interestingly enough, students studying in East Asian countries who adopted higher Western cultural orientation were also more likely to drink alcohol. International students with larger social networks were also found to drink more (Yan & FitzPatrick, 2016).

International students may also turn to alcohol consumption as a coping mechanism for dealing with the frustration, stress, loneliness and dissatisfaction with college that results from the acculturation process (Daigle et al., 2018; Kim & Cronley, 2018). About thirty-nine percent of international college students were found to drink alcohol on a weekly basis, with the primary reason for such drinking behaviors being to cope with stress (Misra, Crist & Burant, 2003; Yan & FitzPatrick, 2016). While acculturative stress is a predictor of anxiety and depression, such mental health outcomes are also associated with an increased risk of binge drinking and drinking

and driving behaviors among international students (Kim & Cronley, 2018). According to one finding, fifty-two percent of international students reported binge-drinking in the past month and international students were more likely than non-international peers to experience four episodes of binge drinking (Daigle et al., 2018; Kim & Cronley, 2018; Koyama & Belli, 2011). Thus, although they still may be drinking less frequently than their non-international peers, research suggests that international students may be more at risk for drinking in larger quantities.

Contrasting this information, other studies have found that there is little correlation between alcohol consumption and acculturative stress (Hunt et al., 2017). Although acculturative stress may increase international students' risk of binge drinking, this research warns that this increased and unique risk factor to international students does not necessarily mean that international students in actuality will be drinking in larger quantities in comparison to students born in the U.S. (Hunt et al., 2017). There is also scant research on the proportion of international students from each nationality who drink and in what quantity. And among this limited research, there are wide ranges reported on the frequency of drinking and binge drinking among students from the respective countries of international students (Ji, Hu & Song, 2012; Newman et al., 2017). This makes it difficult to make non-contradictory comparisons among and between nationality groups of international students, and to further compare the international students to American students and students from their countries of origin. However, one broad finding has been that international students from East Asian countries appear to drink less than most other international students from other regions (Daigle et al., 2018; Hunt et al., 2017). Yet still, when analyzing the experiences of East Asian students in attempts to see which nationality drank most frequently and in the most amount, there were conflicting results (Park, Anastas, Shibusawa & Nguyen, 2014; Sudhinharaset et al., 2016). The contrasting and inconclusive

results in prior research regarding if international students are drinking more or less in the U.S. could be due to the fact that resiliency and culture may offset coping mechanisms of acculturative stress and social factors that were predicted to increase alcohol use. Resiliency, the protective factors and resourcefulness an individual possesses that enables them to overcome risk and thwart negative outcomes, is associated with both better adaptation and lower binge-drinking behaviors among international students (Kim & Cronley, 2018; Yan & FitzPatrick, 2016). Many international students on U.S. campuses have demonstrated high levels of resilience to the acculturative stress they endure (Kim & Cronley, 2018). Culture also explains why international students may be drinking at lower levels than expected in terms of the stressors they face. In looking at East Asian cultures, many discourage drinking frequently or in excessive quantities (Kim & Cronley, 2018; Wang, Newman & Shell, 2016). Being able to drink without getting visibly intoxicated is often an impressive and desired behavior (Wang et al., 2016). Thus, these cultural values may remain in international students of these nationalities, causing them to adopt less risky drinking behaviors in the U.S.

Tobacco. Unlike alcohol use, international students on American campuses tend to use tobacco products more often than U.S. students (Sa et al., 2013). This reflects the fact that most of the countries international students migrate from have smoking rates higher than those in the U.S., indicating a cultural association and likely a transferred habit from international students' home countries (Sa et al., 2013). For example, in South Korea, roughly forty-four percent of students smoke tobacco, whereas in the U.S. only about sixteen to twenty percent of students smoke (Sa et al., 2013). However, heightened smoking rates among international students in comparison to U.S. students may be due to factors that accompany acculturative stress, allowing tobacco to serve as a negative coping mechanism to alleviate such stress. For instance, previous

research has indicated that factors such as depression, anxiety, and stress contributed to increased smoking rates among international students (Kim & Cronley, 2018; Sa et al., 2013). To support this finding, regular tobacco users reported that even though they already smoked, they smoked more during periods of stress (Sa et al., 2013). In terms of electronic cigarettes, these were also deemed a coping response, as vulnerable students and students with mental health illnesses were found to be more likely to use them (Hefner, Sollazzo, Mullaney, Coker & Sofuoglu, 2018). In terms of students who stopped using tobacco once arriving in the U.S., decreases may be seen due to increased cigarette prices in the U.S., more restrictions on where they could smoke, and social norms in the U.S. which discourage smoking (Sa et al., 2013).

Substance use as a coping mechanism. In dealing with hardships, people often rely on various coping mechanisms to alleviate stress. The type of coping mechanism utilized can vary based on ethnicity, culture, age, gender, personality, and numerous other factors. Research conveys that increased amounts of stress and poor mental well-being are associated with risky behaviors that serve as coping responses, including legal and illegal substance use (Kim & Cronley, 2018). One study found that resilience was negatively correlated with acculturative stress and risky substance behaviors among international college students (Kim & Cronley, 2018; Yan & FitzPatrick, 2016). However, substance use trends among international students vary by substance and country of origin. For instance, Chinese students on U.S. campuses who were faced with acculturative stress were found to utilize self-control as a coping strategy and so were less likely to engage in risky behavior, whereas students from the U.S. and other countries were less likely to use this mechanism (Bai, 2016). The explanation for this phenomenon is that in Chinese culture, complaining about adversity is discouraged and tolerance of such conditions is revered (Bai, 2016).

With mixed evidence regarding the alcohol, tobacco, and other drug use of international students in comparison to U.S. students, several questions still remain. Do East Asian international students drink more than their Caucasian or Asian American U.S. peers? Do international students drink more frequently and in larger quantities after enrolling at a U.S. university compared to their prior rates of consumption in their home countries? Do international students think they drink more than peers from their home countries? And if international students are not using substances as frequently, are they still more prone to risky substance use behaviors? This study will attempt to answer these questions by focusing on ethnicity and nationality when examining substance use behaviors and attitudes regarding said substances.

Current Study

This study was conducted in order to assess if East Asian international students at the University of Michigan (U.M.) experience higher levels of acculturative stress, mental health issues, and/or substance use compared to non-international Asian-American and Caucasian students. Three hypotheses were made. The first was that East Asian international students at U.M. would experience higher levels of acculturative stress compared to non-international Asian-American and Caucasian students. The second hypothesis theorized that East Asian international students at U.M. would experience greater mental health issues, specifically greater depressive and anxious symptoms, compared to non-international Asian-American students and Caucasian students. Lastly, it was hypothesized that East Asian international students at U.M. would have a higher level of alcohol consumption compared to Asian-American students, but a similar level of alcohol consumption compared to Caucasian students.

Method

Procedure

Data for this study was collected through an online survey that was hosted by Qualtrics and approved by the Institutional Review Board (IRB) at U.M. (HUM00171923). The survey contained both multiple choice and open response questions. It required fifteen minutes to complete and recruitment strategies targeted undergraduate students. Recruitment emails were distributed to East Asian international students (A.I.), Asian-American students (A.A.), and Caucasian American students (C.A.) by the Registrar's Office at U.M. Each recruitment email contained a brief description of the study and a link to access the online survey. Additionally, advertisements for the study were posted in undergraduate Facebook groups and distributed through email list-serves of cultural clubs at U.M. In order to incentivize participation, participants were entered into a raffle to win one of six, \$25 Amazon gift-cards.

Participants

The sample was comprised of 687 U.M. students who were recruited from the aforementioned email lists and groups. Participants of various majors were 16-27 ($M = 19.60$) years old, ranging from Freshmen to Seniors. Of this group, 127 students were C.A. ($M = 20.04$), 194 were A.A. ($M = 19.33$), and 186 were A.I. students ($M = 19.75$; see Table 1 for sample demographics). A.I. students hailed from China, Hong Kong, Taiwan, Japan, Malaysia, Philippines, South Korea, Singapore, and Vietnam. On average, these students came to the United States at the age of 17.57. Of these students, their primary languages were Mandarin Chinese, Cantonese, Taiwanese Mandarin, Korean, Japanese, Malaysian Malay, Vietnamese and Sichuanese. Approximately eighty-two percent of C.A., sixty-five percent of A.A. and seventy percent of A.I. students were female (Table 4).

Measures

Depressive symptoms. Participants completed an adapted nine-item Harvard Department of Psychiatry Depression Screening Day Scale (HANDS; Baer et al., 2000). Participants reported frequency of depression symptoms over the past two weeks on a four-point Likert scale (zero=none or little of the time, one=some of the time, two=most of the time, or three=all of the time). Items included, “feeling hopeless about the future” and “feeling no interest in things”. Item responses were averaged to create a depression score and showed good reliability ($\alpha = 0.867$).

Anxiety symptoms. We assessed anxiety symptoms using the Generalized Anxiety Disorder seven-item scale (GAD-7; Spitzer, Kroenke, Williams & Löwe, 2006). Participants reported the frequency of anxiety symptoms over the past two-week period on a four-point Likert scale (zero=not at all, one=several days, two=over half the days, or three=nearly every day). Items included, “not being able to stop or control worrying” and “feeling afraid as if something awful might happen”. An anxiety score was then comprised by averaging reports and this scale demonstrated good reliability ($\alpha = 0.911$).

Alcohol, tobacco and drugs. In order to analyze substance use both during and before U.M., participants completed an adapted five-item version of the National Institute on Drug Abuse (NIDA) Quick Screen V1. The original screen asked participants to assess how often they have participated in binge drinking alcohol (five drinks for men or four drinks for women, at a single time) or used tobacco products, prescription drugs for non-medical reasons, and/or illegal drugs in a year-long period (National Institute on Drug Abuse). We added an item inquiring about frequency of marijuana use. The screen uses a five-point Likert scale (one=never,

two=once or twice, three=monthly, four=weekly or five=daily or almost daily). Items were averaged to create a substance use score and showed moderate reliability ($\alpha = 0.725$).

Reasons for drinking. We assessed why people choose to drink alcohol using the 15-item Scale for the Measurement of Attitudes Towards Alcohol (Francalanci, Chiassai, Ferrara, Ferretti & Mattei, 2011). This scale looks at three categories for why people drink, with each category containing 5-items: (1) for easing social/romantic relations, (2) for escaping unease (negative feelings or social problems) or (3) due to economic aspects (i.e. drinking because alcohol is available or affordable). Participants answered with “yes” or “no” to statements regarding inquiries about their experiences with alcohol since attending U.M. Items included “I drink to be more talkative,” “I drink alcohol to escape from everyday problems” and “I always accept a free drink”. Scores were summed where zero=no and one=yes. Sums were then averaged to provide motivations for drinking and showed good reliability ($\alpha = 0.908$).

Acculturative stress. Participants completed the adapted 41-item International Student’s Acculturative Stress Questionnaire (Sandhu & Asrabadi, 1994). Participants answered with “yes” or “no” statements about their experiences since they have been at U.M. Items included, “being homesick for my hometown bothers me,” “I feel rejected when people are sarcastic towards my cultural values” and “I don’t feel a sense of belonging here”. Scores were summed where zero=no and one=yes. Sums were then averaged to provide a score for acculturative stress. These scores had good reliability ($\alpha = 0.940$).

Cultural stigma scale. We assessed cultural stigma using the 12-item Perceived Devaluation- Discrimination Scale (PDD; Link, 1987). Items consisted of statements like, “most people think less of a person who has been in mental health treatment” and “most employers will hire a person with former mental health issues if he/she is qualified for the job”. Positive anti-

stigma items like the latter were inversely coded. Assessments were made using a three-point Likert scale where a higher score indicated more stigma (one=disagree, two=undecided and three=agree). Item responses were averaged to create a cultural stigma score and showed good reliability ($\alpha = 0.818$).

Personal stigma scale. To look at participants' own stigma regarding mental health, participants completed the adapted six-item Mental Disorder Prejudice Scale (MDPS; Machizawa, Sato & Sawamura, 1990). Items included "people with mental health issues should not have children" or "people with mental health issues should be isolated". Participants reported how well they agreed with items on a four-point Likert scale (one=strongly disagree, two=disagree, three=agree, four=strongly agree). The first item was inversely coded since it portrayed a positive statement about mental health issues. A higher score indicated higher amounts of stigma. Item responses were averaged to create a depression score and showed moderate reliability ($\alpha = 0.763$).

Data Analysis Plan

Chi-Square tests were used to analyze demographic differences such as the distribution of gender, undergraduate standing, and history of using different types of mental health resources among C.A., A.A. and A.I. students. To address the primary research question, one-way ANOVAs were used to determine whether East Asian international students at the University of Michigan experienced higher levels of acculturative stress, negative mental health symptoms, and substance use compared to non-international Asian and Caucasian students. Separate one-way ANOVAs were examined for the following outcome variables: acculturative stress, depressive symptoms, anxiety symptoms, language barriers, and cultural stigma. Additionally, a repeated measures ANOVA was used to examine within-subject change in substances use before

and after students enrolled in college. Repeated Measure ANOVA also compared these differences among C.A., A.A. and A.I. students regarding how substance use changed upon arriving at the U.M. campus.

Results

Preliminary Analyses

Descriptive statistics for various acculturation, mental health and substance use variables where one-way ANOVA measurements were applicable can be seen in Table 2. In this table, means, standard deviations, Bonferroni F-factors and p-values are displayed. A p-value of less than 0.05 conveyed that differences between groups were statistically significant. In terms of general basic information, a Chi-square test was first run for gender. Gender was found to be unequally distributed among comparison groups and there was a significantly larger proportion of females in the C.A. group, even though all groups were majority female, $\chi^2(4,502) = 13.95, p = 0.007$ (Table 4). For undergraduate standing, the Chi-square results also indicated unequal distribution, and it appeared that the C.A. group was disproportionately comprised of Seniors, and the A.A. students were disproportionately comprised of Freshmen, $\chi^2(6,N=502) = 33.74, p = 0.000$ (Table 5). This distribution of class standing corroborates findings in age, where a one-way ANOVA indicated that ages varied significantly, with C.A. students ($M = 20.04, SD = 1.47$) being significantly older than A.A. students ($M = 19.33, SD = 1.27$), and neither group being significantly different from A.I. students ($M = 19.75, SD = 2.55, F(2,502) = 5.73, p = 0.003$ (Table 2).

Acculturative Stress

In testing the first hypothesis regarding if East Asian international students experienced higher levels of acculturative stress as compared to their non-international peers, there was a

significant difference in acculturative stress levels between all groups. A.I. students ($M = 10.10$, $SD = 9.91$) experienced the most, followed by A.A. ($M = 7.04$, $SD = 7.07$), and then C.A. ($M = 2.88$, $SD = 3.02$) students, $F(2,429) = 27.67$, $p < 0.001$, (Table 2).

Language barriers. Other contributors of acculturative stress include language barriers, accent issues, difficulty adjusting to a novel environments and social support. For language barriers, there was a significant difference between A.I. ($M = 1.59$, $SD = 0.76$) and both A.A. ($M = 1.16$, $SD = 0.44$) and C.A. ($M = 1.13$, $SD = 0.33$) students, $F(2,499) = 37.25$, $p < 0.001$ (Table 2). Also, for difficulty understanding accents, A.I. students ($M = 1.46$, $SD = 0.65$) reported the highest means that were statistically different from the other groups (C.A.: $M = 1.03$, $SD = 0.18$; A.A.: $M = 1.06$, $SD = 0.24$; $F(2,500) = 53.54$, $p < 0.001$) (Table 2). Despite this, for both of these measures, averages for A.I. students only fell in between 1 (never facing these issues) and 2 (sometimes facing these issues).

College adjustment. Next, when we assessed scores of adjustments to U.M., there were no significant differences among groups (Table 2). There were also no significant differences between any of the demographic groups regarding their satisfaction with social support on campus, with all group means for both measures falling between slightly satisfied and neither satisfied/unsatisfied, but closer to slightly satisfied (Table 2).

Mental Health Outcomes, Perceptions and Interventions

Mental health outcomes. In this study, mental health measures included depressive symptoms, anxiety symptoms, and academic stress. For depressive symptoms, there were no significant differences between groups. Although insignificant differences were observed, A.A. students ($M = 1.99$, $SD = 0.60$) were seen to experience the highest levels of depressive symptoms, followed by C.A. ($M = 1.95$, $SD = 0.66$) and then A.I. ($M = 1.90$, $SD = 0.55$) students

(Table 2). Despite these observations, all means were found to be slightly below two on a scale of one (none or little of the time) to four (all of the time) in a two-week period, thus conveying on average students were experiencing depressive symptoms “some of the time”. Anxiety was ranked on a similar one to four scale, with one representing experiencing symptoms of anxiety “not at all” and four representing having them “nearly every day”. Anxiety scores also showed an insignificant difference between groups, although by looking at the means from most to least anxious, the order was C.A. ($M = 2.07, SD = 0.77$), A.A. ($M = 1.96, SD = 0.06$) and A.I. ($M = 1.96, SD = 0.79$) (Table 2). As with depressive symptoms, these average values mainly fell slightly above or below two, which represented all groups on average experiencing anxious symptoms “several days” within a two-week period. Academic stress also contributes to overall mental health. However, academic stress was seen to be not significantly different among the three comparison groups, with all groups conveying scores that averaged between neutral and stressed, but more on the side of neutral (Table 2). There were significant differences for parental pressure, with A.I. students ($M = 2.03, SD = 0.71$) reporting significantly lower amounts of parental academic pressure than A.A. students ($M = 2.30, SD = 0.86$), and C.A. students ($M = 2.14, SD = 0.79$) falling in the middle and not being significantly different from either other group, $F(2,408) = 4.59, p = 0.011$ (Table 2). For cultural academic pressure, though, C.A. students ($M = 2.17, SD = 0.83$) reported less pressure than A.A. ($M = 2.88, SD = 0.89$) and A.I. ($M = 2.76, SD = 0.83$) peers, $F(2,414) = 22.49, p < 0.001$ (Table 2). C.A. students’ average was associated with mild levels of cultural pressure, whereas that of the other two groups correlated with a lot of pressure.

Perceptions of mental health and interventions. Reporting on cultural stigma regarding people with mental health issues, C.A. students ($M = 1.74, SD = 0.45$) demonstrated significantly

less cultural stigma than other students (A.A.: $M = 1.90$, $SD = 0.41$; A.I.: $M = 1.96$, $SD = 0.44$) for both measures, $F(2,386) = 7.39$, $p = 0.001$ (Table 2). C.A. students ($M = 1.47$, $SD = 0.44$) also exhibited a significantly smaller amount of personal stigma than A.A. ($M = 1.69$, $SD = 0.45$) and A.I. ($M = 1.77$, $SD = 0.45$) students, $F(2,385) = 10.49$, $p < 0.001$ (Table 2). With lower levels of stigma, C.A. students ($M = 3.74$, $SD = 1.07$) were also significantly more likely to use resources than A.A. students ($M = 3.27$, $SD = 1.05$), $F(2,390) = 5.88$, $p = 0.003$. C.A. students ($M = 0.94$, $SD = 0.23$) once again were also more likely to be aware of resources than A.A. ($M = 0.82$, $SD = 0.38$) and A.I. students ($M = 0.73$, $SD = 0.44$), $F(2,390) = 8.50$, $p < 0.001$ (Table 2).

Substance Use

Alcohol consumption. The use of alcohol was compared among the three groups. C.A. students ($M = 2.86$, $SD = 0.14$) differed significantly from A.A. ($M = 1.70$, $SD = 0.08$) and A.I. ($M = 1.52$, $SD = 0.93$) students in terms of having higher likelihood of binge drinking during their time at U.M., $F(2,454) = 52.65$, $p < 0.001$. Before enrolling at U.M., trends were similar with C.A. students ($M = 2.16$, $SD = 1.21$) binge drinking significantly more than A.A. ($M = 1.34$, $SD = 0.71$) and A.I. ($M = 1.33$, $SD = 0.83$) students, $F(2,455) = 36.68$, $p < 0.001$, but no significant differences between A.A. and A.I. students were found. These differences were supported by a repeated-measure ANOVA comparing binge drinking frequency before and during U.M. enrollment. Results indicated a significant within-subject increase in binge drinking over this time period, where alcohol consumption increased from time one (before enrollment at U.M.; $M = 1.61$, $SE = 0.04$) to time two (during enrollment at U.M.; $M = 2.03$, $SE = 0.05$), $F(1, 454) = 101.05$, $p < 0.001$ (Table 3). The interaction between within-subject binge drinking and the comparison groups were also significant, $F(2, 454) = 11.37$, $p < 0.001$, thus indicating that the increase in binge drinking was statistically different across the comparison groups. C.A. changes

in time-points were significant against A.A. and A.I. students, but these two groups were not significant from each other (Table 3). To elaborate, there were increases in binge drinking once they got to U.M. for everyone, but levels increased the most in C.A. students, even though they started by consuming the most before.

Reason for alcohol consumption. Delving deeper into alcohol use, the reasons for drinking alcohol were analyzed among the three-groups. In terms of overall results, C.A. students ($M = 5.58, SD = 4.09$) reported a significantly higher number of motivations for drinking than the A.A. ($M = 3.33, SD = 2.59$) and A.I. ($M = 2.59, SD = 3.92$) students, $F(2,453) = 19.86, p < 0.001$ (Table 2). The scale was then divided into three themes: social, economic and coping-orientated economic drinking reasons. All groups reported that their most common reasons for drinking were social ones, followed by economic and then despair-oriented reasons. For all three subsections of the scale, C.A. students reported a significantly higher number of reasons for drinking than other groups (social reasons: C.A. ($M = 2.47, SD = 2.04$), A.A. ($M = 1.51, SD = 1.94$), A.I., ($M = 1.04, SD = 1.72$), $F(2,453) = 19.41, p < 0.001$; economic reasons: C.A. ($M = 2.08, SD = 1.75$), A.A. ($M = 1.23, SD = 1.55$), A.I., ($M = 0.85, SD = 1.45$), $F(2,453) = 20.82, p = 0.020$; despair reasons: C.A. ($M = 1.04, SD = 1.46$), A.A. ($M = 0.59, SD = 1.24$), A.I., ($M = 0.70, SD = 1.36$), $F(2,453) = 3.92, p < 0.001$)) (Table 2).

Additional substance use. I also analyzed tobacco and marijuana substance use among the comparison groups to supplement our findings about substance use. For both of these measures, C.A. students reported using these substances significantly more during their time at U.M. (tobacco: C.A. ($M = 1.95, SD = 1.60$), A.A. ($M = 1.32, SD = 1.04$), A.I. ($M = 1.38, SD = 1.08$), $F(2,454) = 10.36, p < 0.001$; marijuana: C.A. ($M = 2.12, SD = 1.51$), A.A. ($M = 1.35, SD = 0.72$), A.I. ($M = 1.25, SD = 0.70$), $F(2,454) = 10.36, p < 0.001$) (Table 2). However, before

enrolling in U.M., there were no significant differences between groups for tobacco use (Table 2). There were differences in marijuana use before U.M., with C.A. students ($M = 1.81$, $SD = 1.19$) reporting using it significantly more than A.A. ($M = 1.26$, $SD = 0.80$) and A.I. ($M = 1.12$, $SD = 0.50$) peers, $F(2,453) = 24.53$, $p < 0.001$ (Table 2). Results also demonstrated a significant within-subject increase in tobacco use, where tobacco consumption increased from time one ($M = 1.31$, $SE = 0.05$) to time two ($M = 1.55$, $SE = 0.06$), $F(1, 453) = 23.73$, $p < 0.001$ (Table 3). The interaction between-subject tobacco consumption and the comparison groups was also significant, $F(2, 453) = 6.07$, $p = 0.003$, thus indicating that the increase in tobacco use occurred and was statistically different across the comparison groups (Table 3). A similar trend was seen for marijuana use, with a significant within-subject effect for marijuana consumption over time, where marijuana use increased from time one ($M = 1.97$, $SE = 0.07$) to time two ($M = 1.31$, $SE = 0.06$); $F(1, 449) = 17.33$, $p < 0.001$ (Table 3). However, the interaction between-subject marijuana consumption and the comparison groups was not significant, thus indicating that the increase in marijuana consumption occurred for the entire sample and was not statistically different across the comparison groups (Table 3).

Discussion

This study examined the differences in mental health and substance use among A.I. students at the U.M., in comparison to their A.A. and C.A. peers. There were significant differences between groups in terms of many variables, but most importantly in the following: acculturative stress, language and accent barriers, stigma and mental health resource attitudes, and the use of alcohol, tobacco and marijuana within-subjects over time upon enrollment to U.M. There were NOT significant differences among groups in the reports on: depression, anxiety, and academic stress. From the non-significant data, I could not draw conclusions that any of these

issues were associated with race or ethnicity, but with the significant data I attempted to isolate these related factors.

Ethnicity vs Nationality on Acculturative Stress

When assessing acculturative stress, the hypothesis was supported that A.I. students had significantly higher levels than their American counterparts. Thus, nationality proved to be a significant factor in acculturative stress. As indicated by the scores for the various acculturative stress items, over a third of members from each demographic group reported feeling homesick or intimidated to participate in social activities. In addition to this, international students also faced acculturative stress that was derived from issues centered around: feelings of intimidation, discrimination or rejection regarding intercultural social interactions, worrying about or missing people from their homes, and being overwhelmed by the social, financial, and culinary adjustment process of migration. These findings thus corroborated past research on the factors of acculturative stress among international students (Bai, 2016 ; Hirai et al., 2015; Liu & Dunne, 2009; Poyrazli & Lopez, 2007; Wang et al., 2012). In addition, our results also conveyed that race was a significant factor in determining acculturative stress, as A.A. and A.I. students had significantly higher levels of stress than C.A. students. A.A. students also reported feelings of discrimination or rejection from the dominant culture based on ethnic or cultural practices, although they on average experienced acculturative stress to a lesser degree than A.I. students. The distinguishing factors for the nationality variable were that a larger percentage of international students experienced these issues. In addition, international students also felt that opportunities were denied to them, they were treated differently in social situations, and people from the dominant culture did not associate with them solely due to their ethnicity. They also

reported being overwhelmed by the changes induced by their migration, struggling financially, and feeling uncomfortable with new foods and eating habits.

Nationality was also significantly correlated with the likelihood of experiencing language or accent barriers or difficulties, as A.I. students experienced these at significantly higher levels than their U.S. counterparts. As discussed in the literature review, language and communication barriers (including accent difficulties) are significant predictors of acculturative stress (Bai, 2016; Poyrazli & Lopez, 2007). Having trouble communicating with people from different countries, who have different primary languages and accents, is likely one of the reasons that A.I. students reported stress surrounding interactions with students from the dominant, American culture on U.M. campus. However, it is important to note that although A.I. students reported this stress, they did not report significantly different levels of social support satisfaction than the American students on campus. All groups averaged social support satisfaction between slight satisfaction and neutral satisfaction and thus neither nationality nor race were proven to be significant factors for this variable. This indicates that A.I. students potentially found social support in people whose norms, values and languages did not align with that of American culture. This is important because, according to research, social support has the power to lessen acculturative stress and negative mental health outcomes (Hirai et al., 2015; Wang et al., 2012). Additionally, it is peculiar that there were no significant differences regarding ease of adjustment among the demographic groups. Since they experienced higher levels of acculturative stress, it was expected that A.I. adjustment would also be more difficult. Thus, it was surprising to find that C.A. students had the lowest scores for ease of adjustment. However, as seen in the results, Caucasian students were disproportionately comprised of Seniors, so they might not remember their initial adjustment to the university as accurately. Additionally, adjustment scores for all

three groups may be higher as those who were having significant trouble adjusting may have dropped out of U.M.

Ethnicity vs Nationality on Mental Health Correlates

Despite predictions based on comprehensive research, our results did not support the hypothesis that A.I. students at U.M. would experience greater mental health issues. Despite A.I. students experiencing elevated levels of acculturative stress, their depression and anxiety levels did not differ significantly from non-international students, possibly because they had enough social support to offset this stress of migration. These findings were inconsistent with previous research asserting that acculturative stress makes international students vulnerable to experiencing more mental health issues (Bai, 2016; Berry, 1987; Kim & Cronley, 2018; Poyralzi & Lopez, 2007). Thus, race and/or ethnicity could not be isolated as being associated with certain mental health outcomes. It is important to note that all groups for a two-week period averaged experiencing depressive symptoms some of the time, and anxious symptoms on several days. Thus, mental health issues were prevalent but not drastic on average among the groups. Likewise, academic stress was not significantly different among any of the groups. This finding contrasted with the majority of research analyzed, as well as with results regarding parental and cultural academic pressure (Liao & Wei, 2014; Wang et al., 2012). For cultural academic pressure, race was found to be related, as C.A. students reported experiencing it significantly less than A.A. or A.I. peers, which corroborated previous findings. Parental academic pressure was found to not be associated significantly with race or ethnicity, since only A.A. students experienced significantly more pressure than the other groups. In summary, although it was predicted that A.I. students would demonstrate more mental health issues due to their higher levels of acculturative stress, a lack of significant discrepancies in prevalence of depression,

anxiety and academic stress was reported. One possible explanation for this may be that acculturative stress is not related to mental health outcomes. However, other explanations could be that factors such as resiliency, adequate social support, proficiency in English or prior exposure to American culture (i.e. via social media) may have attenuated the severity of acculturative stress (although it still existed significantly for A.I. students). Thus, even if acculturative stress is a predictor of negative mental health outcomes, if East Asian U.M. students experienced less extreme levels of acculturative stress than anticipated, this stress may not manifest into significantly more prevalent mental health issues. There is also the possibility of A.A. and A.I. students underreporting the severity or existence of mental health issues due to stigma, which could affect why a relation between acculturative stress and mental health issues was not seen (Xiao et al., 2019).

Although all groups experienced similar prevalence of mental health issues, there were significant differences between perceptions and course of action for treatment surrounding mental health. C.A.s were significantly more likely to be aware of the existence of specific mental health resources, be willing to use mental health resources, have used mental health resources in general, and have used non-U.M. mental health resources. These findings suggest that race is related to the knowledge about and the use of available mental health resources. These results also support research included in the literature review and can partially be explained by findings regarding stigma. (Eisenberg et al., 2009; Ojeda & McGuire, 2006; Shea & Yeh, 2008; U.S. Department of Health and Human Services, 2001; Zhang et al., 1998; Zhang & Dixon, 2003). Race once again proved to be the most significant factor, as Caucasian students were significantly less likely to stigmatize, and come from a culture that stigmatizes, mental health issues. These results indicated that although all groups were experiencing issues such as

depression and anxiety at similar levels, perhaps Caucasian students received more aid for these issues or talked about them with friends or family members. Since C.A. students reported receiving more treatment, this could mean that their mental health issues were in the process of being mitigated. Also, due to stigma, it could be likely that some A.A. or A.I. students downplayed their mental health symptoms in their self-reports to come across in a certain light or did not report their mental health issues due to denial of their situation.

When asked to explain whether or not they would feel comfortable utilizing mental health resources if they needed them, the C.A. students were more likely to use resources, citing how campus resources were free and how it was common culture that students use these resources. However, the three demographic groups shared some similar responses for those who would not seek resources. Out of students who both would and would not use resources, roughly twenty-five percent of A.A., twenty-nine percent of A.I. and eighteen-percent of C.A. students mentioned they would not use resources themselves because of their experiences with, or the reputation of, Counseling and Psychological Services (CAPS), the U.M. campus psychological resource center. The most frequent complaints about CAPS among students of all demographics were centered on how it was inaccessible, ineffective, underfunded, understaffed, over-crowded and had poor response and excessive waiting times. Multiple students noted that when they tried to seek help, the waiting time to get an appointment was over a month. Students also explained how it was frustrating that there was a limit on the number of sessions allowed, noting that this resource was not a long-term option. Other common responses included students' grievances with CAPS staff belittling their mental health issues or noting a lack of trust in the system and its counselors. Some quotes that stood out included, "because of how insidiously underfunded and understaffed CAPS is, it is sometimes hard to determine whether utilizing CAPS for my mental

health concerns is simultaneously prolonging the waiting time for others who desperately need counseling like the student who committed suicide the other day” and “CAPS did not make me feel welcome or that they had time to meet with me since nothing was “seriously” wrong”. One international student provided an anecdote about how she tried to discuss immigration stressors with a CAPS professional to which the professional “joked... that [her] issues were not suicidal thoughts”. Although all students’ dissatisfaction with CAPS is problematic, A.A. and A.I. students are already significantly less likely to seek out treatment, and significantly less likely to use off-campus resources, so this resource must be improved to meet their needs. Aside from the CAPS grievances, the other reasons A.A. and A.I. students reported not utilizing mental health resources were due to their discomfort talking to a stranger about their issues, embarrassment about opening up and stigma.

Ethnicity vs Nationality on Substance Use (and substance use changes)

Ethnicity proved to be a significant variable in substance use behaviors. Caucasian students were significantly more likely to binge drink alcohol and use marijuana both before and during their time at the U.M. They were also more likely to use tobacco products during their time at the U.M. This supported previous findings that people of Asian ethnicity drink less on average than Caucasian people (Hunt et al., 2017; Presley et al., 2002; Sudhinharaset et al., 2016). Caucasian students also reported having significantly larger increases in binge drinking and tobacco use over their transition period to U.M. However, these responses contradicted other research that found that C.A. students used tobacco less frequently than A.I. students (Sa et al., 2013). All groups reported having significant increases in binge drinking, using tobacco, and using marijuana products. There were no significant differences between groups for use of tobacco products before their time at the Michigan.

With this data, I could not support the hypothesis that A.I. students at U.M. have higher levels of alcohol consumption compared to A.A. students, but a similar level of alcohol consumption compared to C.A. C.A. students were shown to clearly consume more alcohol, and a variety of other substances, than A.I. students, and there were no substance measures where A.I. students and A.A. students had significant differences. This hypothesis was made under the prediction that despite minority groups having a history of drinking less alcohol in the U.S., A.I. students would have increased drinking levels comparable to C.A. students in order to cope with feelings of despair induced by acculturative stress (Kim & Cronley, 2018; Misra et al., 2003; Yan & FitzPatrick, 2016). This train of thought was proven false though, as A.I. students reported that their main reasons for drinking alcohol were social ones and drinking out of despair (i.e. drinking as a coping mechanism) was the least frequent drinking motivation. Using alcohol as a coping mechanism for international students cannot be ruled out altogether, as there still was a significant increase in binge drinking for students after their move to U.M. campus. However, judging by the motivations for drinking scale, it is more likely that these behaviors were performed in order to socialize. Also, in assessing potential coping mechanisms to deal with acculturative stress, A.I. students were shown to have increased their binge drinking and use of tobacco, marijuana, and illegal drugs upon their arrival in the U.S. for college. However, since neither their changes in substance use nor their frequency of use were significantly higher than other groups upon attending U.M., there is no way to isolate data that could support that these were coping strategies.

For attitudes regarding alcohol, over half of C.A. students reported that their culture had a positive attitude about alcohol and only four percent reported that drinking alcohol was a negative activity in their society. Caucasian respondents also cited alcohol as a critical means for

enjoying life, decompressing at the end of a day, and socializing in college. These were responses unmatched in other groups. Roughly one-fourth of A.I. students reported negative attitudes and one-fourth reported positive attitudes about alcohol, with about half of respondents being neutral. For A.A. respondents, roughly a third reported negative attitudes and only thirteen percent reported positive cultural attitudes about alcohol. The small fraction of positive cultural perceptions among these two groups and the large fraction of positive attitudes among the C.A. group can help explain the finding that A.A. and A.I. groups drank significantly less than C.A. students. Negative cultural attitudes about alcohol commonly revolved around the negative health effects, religious practices, and the disapproval of sloppy behaviors or binge drinking. A majority of respondents also emphasized that alcohol was only acceptable in small doses, or when alcohol-induced behaviors did not cause social problems or embarrassment. Some more neutral respondents noted that alcohol was only acceptable at certain times and places.

When asked if they drank more, similar to, or less than their peers going to universities in their home countries, roughly three-fourths of A.I. and eighty-three percent of A.A. students said that they drank less. For A.A. students reporting that they drink less than the average American student, this corroborated our finding that they drank less than C.A. students. For A.I. students, however, high percentages of “less than” responses indicate that perhaps A.I. students would be drinking more if they were in their home countries. One possible answer to why international students are drinking less than their peers from their home countries is that they engage in less social activity at U.M. than in their countries of origin. Since social motivations are the main reasons why A.I. students reported drinking, if they are socializing less at U.M. than their peers at school in their home countries, this could be the reason as to why they are drinking less in the U.S. Also, interestingly enough, about half of C.A. students thought they drank less and about

half thought they drank the same amount of their peers. Caucasian students, due to more relaxed and more positive attitudes about alcohol, might be under the misconception that everyone is drinking and in large amounts, which may make them prone to reporting that they feel as though they drink less, even though they do not.

Limitations

As with any study, there were some limitations. In this study, limitations fell in the survey method. This method required students to self-report on items that are personal or stigmatized, for example inquiring about depression, anxiety, acculturative stress, academic stress, personal stigma, and substance use levels. Because of social desirability response bias, people might have underreported or responded falsely about certain issues in attempts to make themselves seem like “better” people. This could have randomly skewed the data. Another possible limitation could have been that the participants were not randomly selected. Participants were advertised the survey not only from the Registrar’s Office’s list-serve, but also by Facebook posts and mutual friend distribution. The sample size could have also been larger to reduce error in results. This non-randomized and small pool may have randomly affected the data in unaccountable ways. Some limitations of the study could also be that in analyzing results, I did not isolate for gender, age, undergraduate standing, parent education level or income. This could have imposed some potential confounding factors. For example, there was a significantly higher proportion of females in the C.A. group. Gender might play a role regarding mental health or substance abuse patterns. Thus, by not separating by different demographic factors, it may have been hard to control completely for our results. Additionally, when looking at alcohol use, I only accounted for binge drinking, not just drinking in general. Perhaps the results or differences between groups would have been different if I had looked at casual drinking as well. Also, when

asking if people drank more than, less than, or similar to their peers, that is a mildly subjective question and perhaps people did not know how to answer or answered differently due to different values, norms or perceptions. It might have also been good to ask students specifically to list things that they do to cope with stress, instead of inadvertently trying to deduce coping mechanisms.

Future Directions

To combat the problems exposed by this study's findings, there are many actions that can and should be taken. When addressing difficulties of acculturative stress for international students, U.M. should tackle issues of discrimination and social exclusion or rejection, as these were the issues that international students were more prone to face frequently. To begin to combat discrimination, bias and exclusion, there are recommendations to make institutional changes aimed at increasing awareness and inclusivity (Charles-Toussaint & Crowson, 2010; Xiao et al., 2019). Creating unique programs that facilitate frequent and non-superficial connections between U.S. and international students could reduce prejudice that stems from a lack of understanding or empathy (Charles-Toussaint & Crowson, 2010; Xiao et al. 2019). These types of programs could also reduce the intimidation international students reported feeling in interacting with peers from the U.S. By fostering these connections and reducing these acculturative stress levels, it would likely benefit international students tremendously and increase ratings of satisfaction with social support and intercultural interactions. Increased cross-cultural exposure and frequently engaging in conversation with an international or non-international peer would also potentially mitigate issues with language barriers and accent-understanding difficulties, as both groups would grow accustomed to how the others talk and pronounce words. If this occurred, it would further alleviate that acculturative stress. Since social

support has been proven to be a factor that attenuates acculturative stress, finding a way to increase social support could also be a solution.

It is also crucial that U.M. reconstruct the mental health services (CAPS) provided, as the poor experiences and reputation of the counseling office seemed to be a main deterrent for students seeking mental health resources. The University must review their counseling efforts, institute additional initiatives for outreach (especially for international students) and revamp support services (Lee et al., 2014; Martin & Dyer, 2017). For example, by funneling more endowment funds into these CAPS services, the University could hire more counselors and provide better pay for overworked ones. This could alleviate stress, provide counselors with more time and energy to spend on students, and reduce the waiting period for appointments by opening more timeslots for students who need the services. Online counseling may also be a good option for increasing accessibility and time-slots. Making students wait a month or more to access mental health resources, when many may not be able to afford outside resources, is unacceptable. As Wood (2012) explains, there's a limited time frame in which students who are distressed are willing to talk about these issues, so quick, if not immediate, access should be available. Also, the University could open up a section of CAPS or designate a certain group of counselors for students with critical mental health conditions, so that other students feel as though those students are taken care of, and do not feel apprehensive about accessing needed resources. CAPS should be designed to be preventative and students should be encouraged to use CAPS, since issues they might not feel are drastic enough to go to CAPS for may spiral into more critical issues without help (Wood, 2012). Perhaps also having a few counselors with international backgrounds, or who have more training about issues regarding acculturative stress or the international or minority student experience, would be helpful. This could make

international students feel both more comfortable and understood and believe that specialized plans of actions could be made.

Lastly, in addressing future directions for research, perhaps it would be helpful to compare substance use rates from the three demographic groups of students to their respective group's national averages. Additionally, the U.M. student experience and likewise the campus' substance use culture and stressors might be different compared to other schools. It would be beneficial to collect data and compare mental health and substance use patterns for American and international students across multiple campuses nation-wide, so that the findings would be less specific and more widely applicable. Also, since a limitation of this study includes that it did not directly inquire about students' choice of coping mechanisms, perhaps this question could be posited in a later study in order to gather more information about this topic and make more concrete conclusions. One last future direction could involve assessing the relationship between acculturative stress and social media consumption. With recent technological advances and increased social media use, perhaps international students are now equipped with more knowledge of American culture and practices and thus they may be less likely than their predecessors to experience the same cultural shock and levels of acculturative stress. If further research proved this true, perhaps it could explain why lower levels of mental health issues among international students were seen in this study than in previous research.

Conclusion

Ultimately, findings only supported one of the three hypotheses. The supported hypothesis was that A.I. students experienced higher levels of acculturative stress than non-international students. However, the hypotheses that international students experienced greater levels of mental health issues or used similar amounts of alcohol to C.A. students (but increased

amounts compared to A.A. students) were rejected. In summary, nationality proved to be a significant factor only when analyzing acculturative stress levels, language barriers and accent experiences. Race only proved to be a significant factor when looking at stigma, history, awareness and desire to use mental health resources, and substance use measures. Thus, refuting predictions, although international students at the U.M. experience high levels of acculturative stress, this was not shown to be related to increased mental health or substance use issues. Ultimately, several policy recommendations were provided in order to help U.M. better aid their students, especially their more vulnerable international students suffering from acculturative stress. By shifting more focus to the needs and mental health of all students and providing additional support and interventions to international students in particular, students will be better able to meet their potential and excel both personally and academically.

References

- Abe-Kim, J., Takeuchi, D. T., Hong, S., Zane, N., Sue, S., Spencer, M. S., ... Alegría, M. (2007). Use of mental health–related services among immigrant and US-born Asian Americans: Results from the National Latino and Asian American Study. *American Journal of Public Health, 97*(1), 91–98. doi: 10.2105/ajph.2006.098541
- American College Health Association. American College Health Association-National College Health Assessment II: Reference Group Executive Summary Spring 2015. Hanover, MD: American College Health Association; 2015.
- Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G., ... Bruffaerts, R. (2016). Mental disorders among college students in the World Health Organization world mental health surveys. *Psychological Medicine, 46*(14) (August 3): 2955–2970. doi:10.1017/s0033291716001665
- Baer, L., Jacobs, D. G., Meszler-Reizes, J., Blais, M., Fava, M., Kessler, R., ... O’Laughlen, J. (1999). Development of a brief screening instrument: The HANDS. *Psychotherapy and Psychosomatics, 69*(1), 35–41. doi: 10.1159/000012364
- Bai, J. (2016). Development and validation of the Acculturative Stress Scale for Chinese College Students in the United States (ASSCS). *Psychological Assessment, 28*(4), 443–447. doi: 10.1037/pas0000198
- Balogun, O., Koyanagi, A., Stickley, A., Gilmour, S., & Shibuya, K. (2014). Alcohol Consumption and psychological distress in adolescents: A Multi-Country Study. *Journal of Adolescent Health, 54*(2), 228–234. doi: 10.1016/j.jadohealth.2013.07.034
- Berry, J. W. (2005). Acculturation: Living successfully in two cultures. *International Journal of Intercultural Relations, 29*(6), 697–712. doi: 10.1016/j.ijintrel.2005.07.013

- Berry, J. W. (2006). Acculturation: A conceptual overview. In M. H. Bornstein & L. R. Cote (Eds.), *Acculturation and parent-child relationships: Measurement and development* (p. 13–30). Lawrence Erlbaum Associates Publishers. doi: 10.4324/9780415963589
- Berry, J. W., Kim, U., Minde, T., & Mok, D. (1987). Comparative Studies of Acculturative Stress. *International Migration Review*, 21(3), 491–511. doi: 10.2307/2546607
- Bruffaerts, R., Mortier, P., Kiekens, G., Auerbach, R. P., Cuijpers, P., Demyttenaere, K., & Kessler, R. C. (2018). Mental health problems in college freshmen: Prevalence and academic functioning. *Journal of Affective Disorders*, 225, 97–103. doi: 10.1016/j.jad.2017.07.044
- Canino, G., & Alegría, M. (2008). Psychiatric diagnosis - is it universal or relative to culture?. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 49(3), 237–250. doi:10.1111/j.1469-7610.2007.01854.x
- Center for Collegiate Mental Health. (2018). *2017 Annual Report* (Publication No. STA 18-166).
- Charles-Toussaint, G. C., & Crowson, H. M. (2010). Prejudice against international students: The role of threat perceptions and authoritarian dispositions in U.S. students. *The Journal of Psychology*, 144(5), 413–428. doi: 10.1080/00223980.2010.496643
- Cuellar, N. G. (2017). Supporting our international students. *Journal of Transcultural Nursing*, 28(3), 229–229. doi: 10.1177/1043659617705481
- Daigle, L. E., Hoffman, C. Y., & Johnson, L. M. (2018). The extent and risk of violent victimization among international college students enrolled in the United States: A gendered analysis. *Journal of Interpersonal Violence*, 33(19), 3053–3073. doi: 10.1177/0886260516633686

- Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review*, *66*(5), 522–541. doi: 10.1177/1077558709335173
- Gallagher, R. P. (2009). *National survey of counseling center directors*. Project Report. The International Association of Counseling Services (IACS).
- Francalanci, C., Chiassai, S., Ferrara, G., Ferretti, F., & Mattei, R. (2011). Scale for the Measurement of Attitudes towards Alcohol. *Alcohol and Alcoholism*. doi: 10.1037/t36980-000
- Han, X., Luo, Q., Jacobs, S., & Jean-Baptiste, M. (2013). Report of a mental health survey among Chinese international students at Yale University. *Journal of American College Health*, *61*(1), 1–8. doi: 10.1080/07448481.2012.738267
- Hefner, K. R., Sollazzo, A., Mullaney, S., Coker, K. L., & Sofuoglu, M. (2019). E-cigarettes, alcohol use, and mental health: Use and perceptions of e-cigarettes among college students, by alcohol use and mental health status. *Addictive Behaviors*, *91*, 12–20. doi: 10.1016/j.addbeh.2018.10.040
- Hirai, R., Frazier, P., & Syed, M. (2015). Psychological and sociocultural adjustment of first year international students: Trajectories and predictors. *Journal of Counseling Psychology*, *62*(3), 438–452. doi: 10.1037/cou0000085
- Hunt, E. N., Martens, M. P., Wang, K. T., & Yan, G. C. (2017). Acculturative stress as a moderator for international student drinking behaviors and alcohol use consequences. *Journal of Ethnicity in Substance Abuse*, *16*(3), 263–275. doi: 10.1080/15332640.2016.1185656

James, S. D. (2017). Mental Health Problems Rising Among College Students.

Retrieved from <https://www.nbcnews.com/feature/college-game-plan/mental-health-problems-rising-among-college-students-n777286>

Ji, C.Y., Hu, P.J., & Song, Y. (2012). The epidemiology of alcohol consumption and misuse among Chinese college students. *Alcohol and Alcoholism*, 47(4), 464–472. doi: 10.1093/alcalc/ags037

Kadison, R., & DiGeronimo, T. F. (2004). *College of the overwhelmed: the campus mental health crisis and what to do about it*. San Francisco, CA: Jossey-Bass.

Kim, Y. S., & Cronley, C. (2018). Acculturative stress, resilience, and binge drinking among international students in the United States. *Journal of American College Health*, 68(2), 207-218. doi: <https://doi.org/10.1080/07448481.2018.1538998>

Kleinman, A. (1988). *The illness narratives: Suffering, healing, and the human condition*. New York, NY: Basic Books. doi: 10.1016/0885-3924(90)90051-K

Koyama, C., & Belli, G. (2011). Alcohol use, acculturative stress, and drinking motivation among international community college students. *Journal of Multicultural Counseling and Development*, 39(4), 229–240. doi: 10.1002/j.2161-1912.2011.tb00637.x

Lee, E.-J., Chan, F., Ditchman, N., & Feigon, M. (2014). Factors influencing Korean international students' preferences for mental health professionals: A conjoint analysis. *Community Mental Health Journal*, 50(1), 104–110. doi: 10.1007/s10597-013-9594-6

Lewis-Fernández, R., & Kleinman, A. (1996). Cultural psychiatry. Theoretical, clinical, and research issues. *Psychiatric Clinics of North America*, 18(3), 433–448. doi: 10.1016/S0193-953X(18)30033-9

- Liao, K. Y. H., & Wei, M. (2014). Academic stress and positive affect: Asian value and self worth contingency as moderators among Chinese international students. *Cultural Diversity and Ethnic Minority Psychology, 20*(1), 107–115. doi: 10.1037/a0034071
- Link, B. G. (1987). *Perceived Devaluation-Discrimination Scale*. doi: 10.1037/t16562-000
- Liu, Y., & Dunne, M. (2009). Educational reform in China: tensions in national policy and local practice. *Comparative Education, 45*(4), 461–476. doi: 10.1080/03050060903391594
- Lyndon, A. E., Crowe, A., Wuensch, K. L., Mccammon, S. L., & Davis, K. B. (2016). College students' stigmatization of people with mental illness: familiarity, implicit person theory, and attribution. *Journal of Mental Health, 28*(3), 255–259. doi: 10.1080/09638237.2016.1244722
- Machizawa, S., Sato, H., Sawamura, M. (1990). The measurement of attitude toward psychiatric disorder. *Japan Journal of Clinical Psychiatry, 19*, 511-520.
- Martin, S., & Dyer, J. (2017). Health maintenance practices and healthcare experiences among international university students. *Journal of the American Association of Nurse Practitioners, 29*(11), 651–657. doi: 10.1002/2327-6924.12524
- Mistler, B., Reetz, D., Krylowicz, B., & Barr, V. (2012). The Association for University and College Counseling Center Directors Annual Survey. Retrieved from https://files.cmcglobal.com/Monograph_2012_AUCCCD_Public.pdf
- Misra, R., Crist, M., & Burant, C. J. (2003). Relationships among life stress, social support, academic stressors, and reactions to stressors of international students in the United States. *International Journal of Stress Management, 10*(2), 137–157. doi: 10.1037/1072-5245.10.2.137

- Newman, I., Ding, L., & Feng, Y. (2017). Estimate of undergraduate university student alcohol use in China: a systematic review and meta-analysis. *Archives of Public Health, 75*(1). doi: 10.1186/s13690-017-0220-x
- Ng, C. H. (1997). The stigma of mental illness in Asian cultures. *Australian & New Zealand Journal of Psychiatry, 31*(3), 382–390. doi: 10.3109/00048679709073848
- Nguyen, C. P., Wong, Y. J., Wang, S. Y., Chen, W., Steinfeldt, J. A., & Kim, B. S. K. (2012). A latent profile analysis of Asian American mens and womens adherence to cultural values. *Cultural Diversity and Ethnic Minority Psychology, 18*(3), 258–267. doi: 10.1037/a0028423
- Park, S. Y., Anastas, J., Shibusawa, T., & Nguyen, D. (2014). The impact of acculturation and acculturative stress on alcohol use across Asian immigrant subgroups. *Substance Use & Misuse, 49*(8), 922–931. doi: 10.3109/10826084.2013.855232
- Poyrazli, S., Kavanaugh, P. R., Baker, A., & Al-Timimi, N. (2004). Social support and demographic correlates of acculturative stress in international students. *Journal of College Counseling, 7*(1), 73–82. doi: 10.1002/j.2161-1882.2004.tb00261.x
- Poyrazli, S., & Lopez, M. D. (2007). An exploratory study of perceived discrimination and homesickness: A comparison of international students and American students. *The Journal of Psychology, 141*(3), 263–280. doi: 10.3200/jrlp.141.3.263-280
- Presley, C. A., Meilman, P. W., & Leichliter, J. S. (2002). College factors that influence drinking. *Journal of Studies on Alcohol and Drugs, 14*, 82–90. doi: 10.15288/jsas.2002.s14.82

- Ruble, R. A., & Zhang, Y. B. (2013). Stereotypes of Chinese international students held by Americans. *International Journal of Intercultural Relations*, *37*(2), 202-211. doi: 10.1016/j.ijintrel.2012.12.004
- Sa, J., Seo, D.C., Nelson, T. F., & Lohrmann, D. K. (2013). Cigarette smoking among Korean international college students in the United States. *Journal of American College Health*, *61*(8), 454-467. doi: 10.1080/07448481.2013.832253
- Sandhu, D. S., & Asrabadi, B. R. (1994). Development of an acculturative stress scale for international students: Preliminary findings. *Psychological Reports*, *75*(1), 435-448. doi: 10.2466/pr0.1994.75.1.435
- Shea, M., & Yeh, C. (2008). Asian American students cultural values, stigma, and relational self-construal: Correlates of attitudes toward professional help seeking. *Journal of Mental Health Counseling*, *30*(2), 157-172. doi: 10.17744/mehc.30.2.g662g5l2r1352198
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing Generalized Anxiety Disorder. *Archives of Internal Medicine*, *166*(10), 1092. doi: 10.1001/archinte.166.10.1092
- Sudhinaraset, M., Wigglesworth, C., & Takeuchi, D. T. (2016). Social and cultural contexts of alcohol use: Influences in a Social-Ecological Framework. *Alcohol research: current reviews*, *38*(1), 35-45.
- Sue, S., & Morishima, J. K. (1982). *The Mental Health of Asian Americans*. San Francisco, CA: Jossey-Bass.
- Suh, H., Nuenen, M. V., & Rice, K. G. (2017). The CES-D as a measure of psychological distress among international students: measurement and structural invariance across gender. *Assessment*, *24*(7), 896-906. doi: 10.1177/1073191116632337

- Ojeda, V. D., & Mcguire, T. G. (2006). Gender and racial/ethnic differences in use of outpatient mental health and substance use services by depressed adults. *Psychiatric Quarterly*, *77*(3), 211–222. doi: 10.1007/s11126-006-9008-9
- Oswalt, S. B., Lederer, A. M., Chestnut-Steich, K., Day, C., Halbritter, A., & Ortiz, D. (2018). Trends in college students' mental health diagnoses and utilization of services. *Journal of American College Health*, *68*(1), 41–51. doi: 10.1080/07448481.2018.1515748
- U.S. Department of Health and Human Services. (2001). *Mental health: Culture, race, and ethnicity—a supplement to mental health: A report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services.
- Vivancos, R., Abubakar, I., & Hunter, P. R. (2009). Sexual behaviour, drugs and alcohol use of international students at a British university: a cross-sectional survey. *International Journal of STD & AIDS*, *20*(9), 619–622. doi: 10.1258/ijsa.2008.008421
- Wang, K. T., Heppner, P. P., Fu, C. C., Zhao, R., Li, F., & Chuang, C. C. (2012). Profiles of acculturative adjustment patterns among Chinese international students. *Journal of Counseling Psychology*, *59*(3), 424–436. doi: 10.1037/a0028532
- Wang, S., Newman, I. M., & Shell, D. F. (2016). Cultural orientation and its associations with alcohol use by university students in China. *PLoS ONE*, *11*(11). doi:10.1371/journal.pone.0165858
- Wong, Y. J., Tsai, P. C., Liu, T., Zhu, Q., & Wei, M. (2014). Male Asian international students' perceived racial discrimination, masculine identity, and subjective masculinity stress: A moderated mediation model. *Journal of Counseling Psychology*, *61*(4), 560–569. doi: 10.1037/cou0000038

- Wood, M. (2012). The state of mental health on college campuses. *Inquiry: The Journal of the Virginia Community Colleges*, *17*(1). Retrieved from <https://commons.vccs.edu/inquiry/vol17/iss1/1>
- Xiao, S., Liu, R., Yao, K., & Wang, T. (2019). Psychosocial predictors of acculturative stress among female and male immigrant Asian Americans: A Gender Comparison Study. *SHS Web of Conferences*, *60*, doi: 10.1051/shsconf/20196001004
- Yan, Z., & Fitzpatrick, K. (2016). Acculturation and health behaviors among international students: A qualitative approach. *Nursing & Health Sciences*, *18*(1), 58–63. doi: 10.1111/nhs.12232
- Zhang, N., & Dixon, D. N. (2003). Acculturation and attitudes of Asian international students toward seeking psychological help. *Journal of Multicultural Counseling and Development*, *31*(3), 205–222. <https://doi.org/10.1002/j.2161-1912.2003.tb00544>
- Zhang, A. Y., Snowden, L. R., & Sue, S. (1998). Differences between Asian- and White Americans' help-seeking and utilization patterns in the Los Angeles area. *Journal of Community Psychology*, *26*(4), 317–326. doi: 10.1002/(SICI)1520-6629(199807)26:4<317::AID-JCOP2>3.0.CO;2-Q

Tables

Table 1.

Summary of Means and Standard Deviations for Participant Demographics

Variable	Caucasian American		Asian American		Asian International		Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	20.04	1.471	19.33	1.27	19.75	2.55	19.60	1.47
Age Moved to U.S.	-	-	-	-	17.57	3.01	-	-

Table 2.

Summary of Means, Standard Deviations and One-Way Analyses of Variance in Multiple

Variables

Variable	<i>p</i>	<i>F</i>	Caucasian American		Asian American		Asian International	
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Accult. Stress	*.000	27.67	2.88	3.02	7.04	7.07	10.10	9.91
Lang. Barriers	*.000	37.25	1.13	0.33	1.16	0.44	1.59	0.76
Accent Barriers	*.000	53.54	1.03	0.18	1.06	0.24	1.46	0.65
Accent Discrim.	*.000	46.66	1.00	0.09	1.03	0.16	1.40	0.68
Adjustment	.113	2.20	5.98	2.28	6.67	2.07	6.49	2.16
Intercult. Satisf.	.667	0.41	3.26	1.12	3.17	1.46	3.31	1.52
Social Support	.403	0.91	3.08	1.39	3.13	1.47	3.31	1.60
Depression	.366	1.01	1.95	0.66	1.99	0.60	1.90	0.55
Anxiety	.085	2.47	2.07	0.77	1.96	0.06	1.96	0.79
Academic Stress	.272	1.31	3.27	0.74	3.30	0.75	3.17	0.74
Parent Pressure	*.011	4.59	2.14	0.79	2.30	0.86	2.03	0.71
Cultural Pressure	*.000	22.49	2.17	0.83	2.88	0.89	2.76	0.83
Cultural Stigma	*.001	7.39	1.74	0.45	1.90	0.41	1.96	0.44
Personal Stigma	*.000	10.49	1.47	0.44	1.69	0.45	1.77	0.54
Would Use Res.	*.003	5.88	3.74	1.07	3.27	1.05	3.56	1.14
Know Resources	*.000	8.50	0.94	0.23	0.82	0.38	0.73	0.44
UM Alcohol	*.000	52.65	2.86	0.14	1.70	0.08	1.52	0.93
Pre-UM Alcohol	*.000	35.68	2.16	1.21	1.34	0.71	1.33	0.83
Drinking Reasons	*.000	19.86	5.58	4.09	3.33	3.92	2.59	3.92
Social Reasons	*.000	19.41	2.47	2.04	1.51	1.94	1.04	1.72
Despair Reasons	*.020	3.92	1.04	1.46	0.59	1.24	0.70	1.36
Money Reasons	*.000	20.82	2.08	1.75	1.23	1.55	0.85	1.45
UM Tobacco	*.000	10.36	1.95	1.60	1.32	1.04	1.38	1.08
Pre-UM Tobacco	.088	2.44	1.46	1.13	1.25	0.94	1.22	0.77
UM Marijuana	*.000	30.96	2.12	1.51	1.35	0.72	1.25	0.70
Pre-UM Marij.	*.000	24.53	1.81	1.19	1.26	0.80	1.12	0.50
UM Prescription	*.032	3.48	1.16	0.44	1.10	0.52	1.03	0.20
Pre-UM Prescrip.	.558	0.58	1.09	0.29	1.09	0.54	1.04	0.36
UM Illegal Drug	*.000	16.09	1.33	0.65	1.06	0.27	1.07	0.39
Pre-UM Illegal D.	.166	1.81	1.04	0.29	1.03	0.23	1.02	0.15
Age	*.003	5.73	20.04	1.47	19.33	1.27	19.75	2.55
Annual Income	*.000	29.24	5.18	1.21	4.14	1.76	3.82	1.58
Parent 1 Edu.	*.000	8.16	4.32	0.78	3.88	1.29	3.85	1.03
Parent 2 Edu.	.078	2.56	4.37	0.88	4.09	1.34	4.19	0.93

**p*<.05, indicating significant differences among comparison groups

Table 3.

Summary of One-Way Within-Subjects and Between-Subjects Analyses of Variance in Substance

Use Upon Enrollment to U.M.

Type of Substance Use	Before UM		During UM		<i>F</i> (1, <i>N</i>)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Binge-Drinking: N=454						
Caucasian American ^a	2.16	1.21	2.86	0.14	101.05	*.000
Asian American ^b	1.34	0.71	1.70	0.08		
Asian International ^b	1.33	0.83	1.52	0.93		
<i>F</i> (2,454)	11.37					
<i>p</i>	*.000					
Tobacco: N=453						
Caucasian American ^a	1.46	1.13	1.95	1.60	23.73	*.000
Asian American ^b	1.25	0.94	1.32	1.04		
Asian International ^b	1.22	0.77	1.38	1.08		
<i>F</i> (2,453)	6.07					
<i>p</i>	*.003					
Marijuana: N=449						
Caucasian American ^a	1.81	1.19	2.12	1.51	17.33	*.001
Asian American ^a	1.26	0.08	1.35	0.72		
Asian International ^a	1.12	0.50	1.25	0.70		
<i>F</i> (2,449)	2.41					
<i>p</i>	.091					
Prescription Drug: N=443						
Caucasian American	1.09 ^a	0.29	1.16	0.44	3.12	.078
Asian American	1.09 ^a	0.54	1.10	0.52		
Asian International	1.04 ^b	0.36	1.03	0.20		
<i>F</i> (2,443)	3.08					
<i>p</i>	*.047					
Illegal Drug: N=449						
Caucasian American	1.04 ^a	0.29	1.33	0.65	32.13	*.000
Asian American	1.03 ^b	0.23	1.06	0.27		
Asian International	1.02 ^b	0.15	1.07	0.39		
<i>F</i> (2,449)	11.54					
<i>p</i>	*.000					

**p<.05; different letters a and b indicated significant differences between within-subject substance use and the comparison demographic groups; the F(1,N) and p-value in the last two columns were the variables for the with-in subjects effects (indicating differences within a group of substance use between time 1 and time 2), whereas the F(2,N) and p-values from the first column indicate the between-subjects effects*

Table 4.

Chi-Square Analysis for Distribution of Gender Across Comparison Groups

Group	Gender	
	Female	Male
Caucasian American	103 (81.75%)	23 (18.25%)
Asian American	125 (65.10%)	67 (34.90%)
Asian International	127 (70.11%)	55 (29.89%)

$\chi^2 (6,502) = 33.74, p = * .000$

**p<.05, indicating significant differences and that gender was not equally distributed across comparison groups*

Table 5.

Chi-Square Analysis for Undergraduate Standing Distribution Across

Comparison Groups

Group	Undergraduate Standing			
	Freshman	Sophomore	Junior	Senior
Caucasian American	35 (27.78%)	17 (13.49%)	21 (16.67%)	53 (42.06%)
Asian American	79 (41.15%)	44 (22.92%)	39 (20.31%)	30 (15.63%)
Asian International	56 (30.43%)	31 (16.85%)	50 (27.71%)	40 (25.54%)

$\chi^2 (6,502) = 33.74, p = * .000$

**p<.05, significant result indicate that the distribution of undergraduate standing was not distributed equally across the comparison groups*

Table 6.

Chi-Square Analysis for History of Using Mental Health Resources Across

Comparison Groups

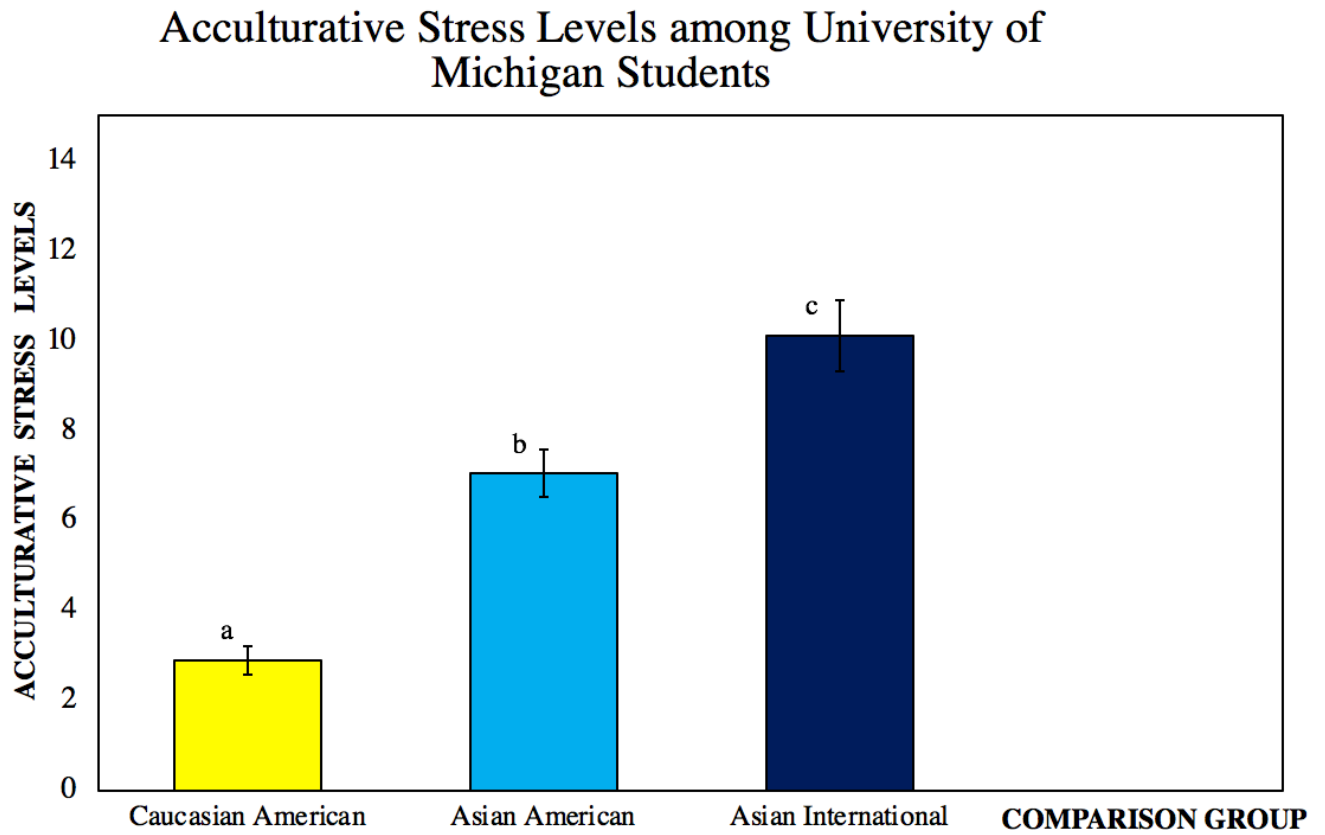
Group	Used Mental Health Resources?		
	No	Yes (UM Resource)	Yes (Non-UM Resource)
Caucasian American	56 (62.22%)	22 (24.44%)	12 (13.33%)
Asian American	135 (85.99%)	18 (11.46%)	4 (2.55%)
Asian International	113 (79.02%)	26 (18.18%)	4 (2.80%)

$\chi^2 (4,502) = 13.95, p = * .007$

**p<.05, significant result indicate that history of using mental resources and the type of that resource was not distributed equally across the comparison groups*

Figures

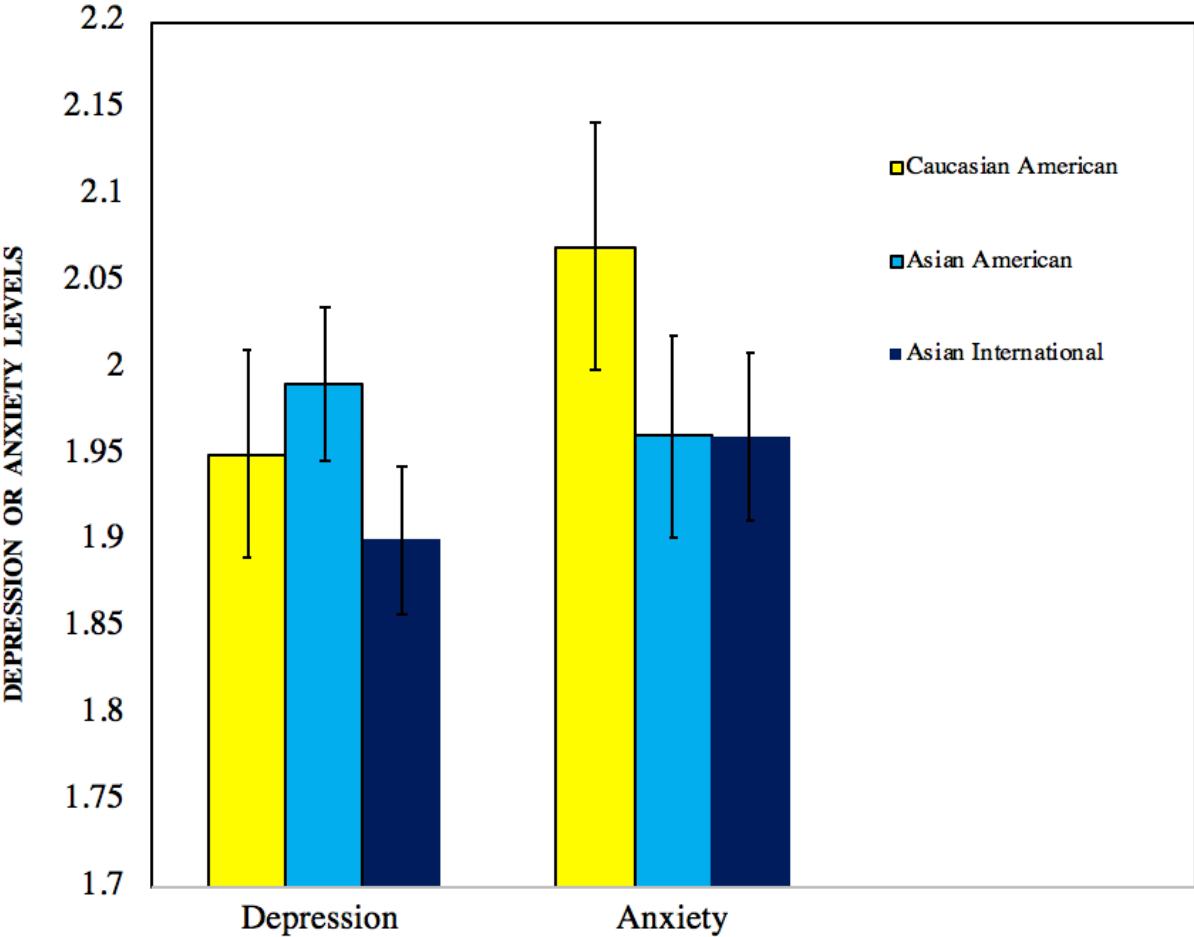
Figure 1.



Different letter subscripts indicate significant differences in values

Figure 2.

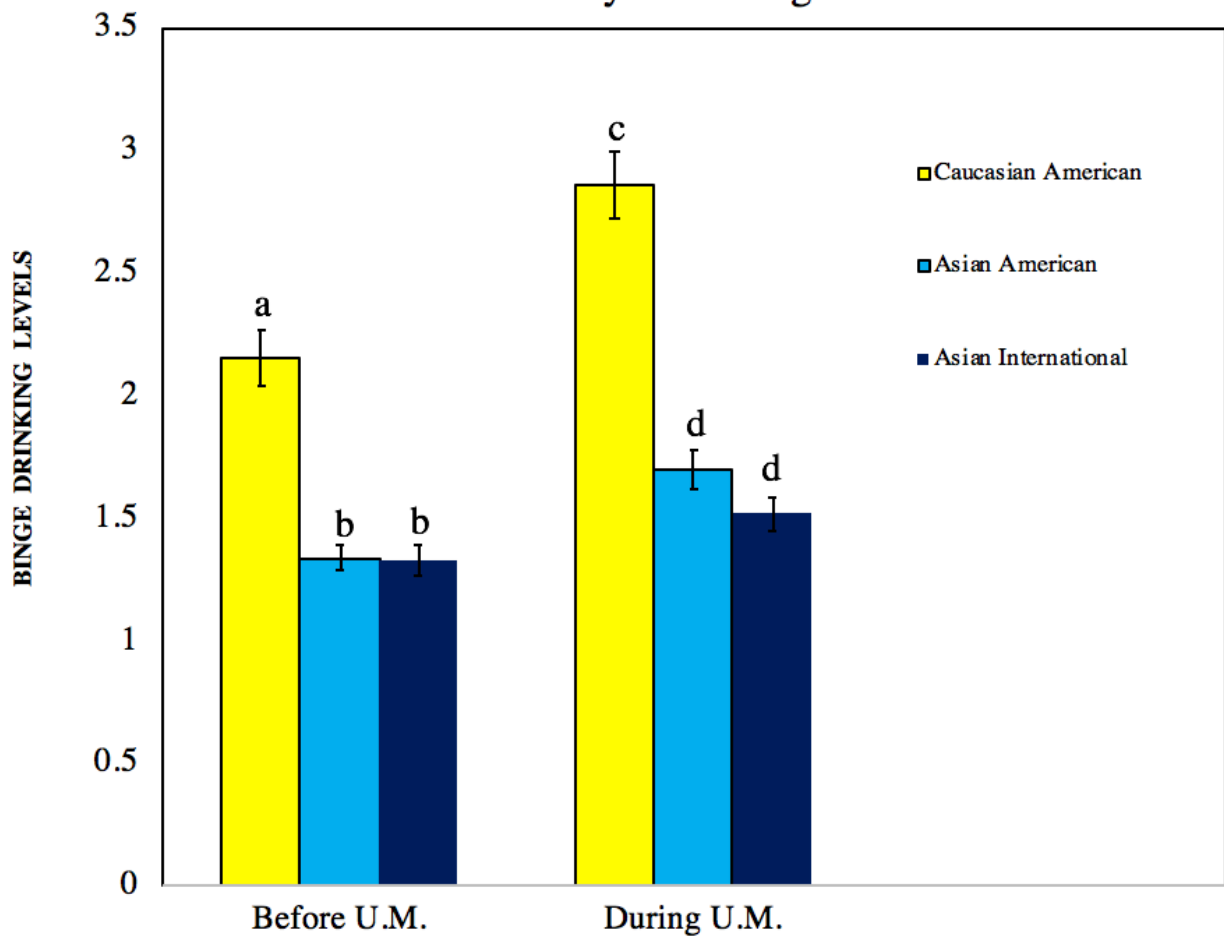
Mental Health Items for University of Michigan Students



There are no significant differences present in this figure

Figure 3.

Binge Drinking Levels Before and After Enrollment at University of Michigan



Different letter subscripts indicate significant differences in values

College Experiences at University of Michigan Survey

Undergraduate standing

- Freshman
 - Sophomore
 - Junior
 - Senior
-

Age

- 17
 - 18
 - 19
 - 20
 - 21
 - 22
 - 23
 - Other (specify) _____
-

Major

Gender

- Male
- Female
- Other (specify) _____

Ethnicity

- White/Caucasian
 - Hispanic/Latino
 - Black/African American
 - Asian
 - Other (specify) _____
-

Mother's education level (or Parent/Guardian 1)

- Less than high school diploma
 - High school diploma or equivalent
 - Some college
 - Bachelor's degree
 - Post-graduate degree
 - Not applicable
-

Father's education level (or Parent/Guardian 2)

- Less than high school diploma
 - High school diploma
 - Some college
 - Bachelor's degree
 - Post-graduate degree
 - Not applicable
-

Estimated annual household income

- Less than \$25,000
 - \$25,000 to \$49,999
 - \$50,000 to \$74,999
 - \$75,000 to \$99,999
 - \$100,00 to \$149,999
 - \$150,000 or more
-

Citizenship status

- Born in the United States
 - Born abroad of U.S. citizen parents
 - U.S. citizen by naturalization
 - Not a U.S. citizen
-

Country of origin/longest residence

- United States
- Canada
- China
- Ireland
- Japan
- Malaysia
- South Korea
- Taiwan
- Other (specify) _____



Mother's country of origin (or Parent/Guardian 1)

- United States
- Canada
- China
- Ireland
- Japan
- Malaysia
- South Korea
- Taiwan
- Other (specify) _____
- Not applicable



Father's country of origin (or Parent/Guardian 2)

- United States
- Canada
- China
- Ireland
- Japan
- Malaysia
- South Korea
- Taiwan
- Other (specify) _____
- Not applicable



What is the first language you were fluent in?

- English
- Mandarin Chinese
- Cantonese
- Hunanese
- Taiwanese Mandarin
- Mandarin
- Korean
- Japanese
- Malaysian Malay
- French
- Spanish
- Other (specify) _____

At University of Michigan, people have a hard time understanding me because of my accent

- Never
 - Sometimes
 - About half the time
 - Most of the time
 - Always
-

At University of Michigan, people treat me differently because of my accent

- Never
 - Sometimes
 - About half the time
 - Most of the time
 - Always
-

At University of Michigan, I have trouble communicating with people due to language barriers

- Never
- Sometimes
- About half the time
- Most of the time
- Always

At what age did you move to the United States?

Over the past two weeks, how often have you been bothered by the following problems?

	None or little of the time	Some of the time	Most of the time	All of the time
Feeling low in energy, slowed down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blaming yourself for things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having poor appetite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having difficulty falling asleep, staying asleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling hopeless about the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling no interest in things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having difficulty concentrating or making decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Over the past two weeks, how often have you been bothered by the following problems?

	Not at all	Several days	More than half the days	Nearly every day
Feeling nervous, anxious or on edge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being able to stop or control worrying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worrying too much about different things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having trouble relaxing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being so restless that it is hard to sit still	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming easily annoyed or irritable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling afraid as if something awful might happen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DURING your time at the University of Michigan, how often have you used or consumed the following?

	Never	Once or twice	Monthly	Weekly	2-4 times a week	5-6 times a week	Daily
Alcohol: 5+ drinks a day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco products (including vaping)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marijuana/marijuana vaping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prescription drugs for non-medical reasons (i.e. Adderall, Percocets, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Illegal drugs (Ecstasy, Cocaine, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



BEFORE your time at the University of Michigan, how often did you use or consume the following?

	Never	Once or twice	Monthly	Weekly	2-4 times a week	5-6 times a week	Daily
Alcohol: 5+ drinks a day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco products (including vaping)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marijuana/marijuana vaping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prescription drugs for non-medical reasons (i.e. Adderall, Percocets, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Illegal drugs (Ecstasy, Cocaine, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Yes	No
I drink to be more talkative	<input type="radio"/>	<input type="radio"/>
Drinking alcohol helps me overcome my shyness	<input type="radio"/>	<input type="radio"/>
I drink to ease relations with the opposite sex	<input type="radio"/>	<input type="radio"/>
I drink to feel more self-confident	<input type="radio"/>	<input type="radio"/>
Drinking helps me feel at ease within my group	<input type="radio"/>	<input type="radio"/>
I drink when I'm sad	<input type="radio"/>	<input type="radio"/>
I drink alcohol to deal with my feelings of despair	<input type="radio"/>	<input type="radio"/>
I sometimes drink when I am angry	<input type="radio"/>	<input type="radio"/>
I drink alcohol to escape from everyday problems	<input type="radio"/>	<input type="radio"/>
I drink alcohol when I need to relax	<input type="radio"/>	<input type="radio"/>
I always accept a free drink	<input type="radio"/>	<input type="radio"/>
When alcohol is free it's "stupid not to take advantage"	<input type="radio"/>	<input type="radio"/>
When I am offered several free drinks in one evening I drink more than usual	<input type="radio"/>	<input type="radio"/>
When I am offered a free drink I accept it even if I don't feel like it	<input type="radio"/>	<input type="radio"/>
I consume less when I have to pay for every drink I have	<input type="radio"/>	<input type="radio"/>

In the culture you grew up in, what are the general attitudes regarding alcohol consumption?



In the culture you grew up in, when is it socially acceptable to drink alcohol?



Do you feel you drink more, similar to, or less than your peers your age who go to school in your country of origin?

	Yes	No
Being homesick for my hometown bothers me	<input type="radio"/>	<input type="radio"/>
I feel uncomfortable to adjust to new foods and/or to new eating habits	<input type="radio"/>	<input type="radio"/>
I am treated differently in social situations	<input type="radio"/>	<input type="radio"/>
I feel rejected when people are sarcastic toward my cultural values	<input type="radio"/>	<input type="radio"/>
I have difficulties in selecting the groceries, clothing and other supplies which suit me	<input type="radio"/>	<input type="radio"/>
I feel sad living in unfamiliar surroundings here	<input type="radio"/>	<input type="radio"/>
I fear for my personal safety because of my different cultural background	<input type="radio"/>	<input type="radio"/>
I feel intimidated to participate in social activities	<input type="radio"/>	<input type="radio"/>
Others are biased toward me	<input type="radio"/>	<input type="radio"/>
I feel guilty to leave my family and friends behind	<input type="radio"/>	<input type="radio"/>
Many opportunities are denied to me	<input type="radio"/>	<input type="radio"/>
I found necessary supplies costly and have no knowledge of how to get them cheaply	<input type="radio"/>	<input type="radio"/>
I feel angry that my people are considered inferior here	<input type="radio"/>	<input type="radio"/>
I have difficulty in finding suitable accommodation for myself	<input type="radio"/>	<input type="radio"/>

I feel overwhelmed that multiple pressures are placed upon me after my migration to this society

I feel that I receive unequal treatment

People from some ethnic groups have shown hatred toward me non-verbally

It hurts when people don't understand my cultural values

I have difficulty in adjusting my appearance to the new life style

I am denied what I deserve

I have to frequently relocate for fear of others

I have difficulties in obtaining necessary documents to be able to work or study

I feel low because of my cultural background

I feel rejected when others don't appreciate my cultural values

I feel uncomfortable adjusting to new cultural values

I feel that my people are discriminated against

People from some other ethnic groups show hatred toward me through their actions

I feel that my status in this society is low due to my cultural background

I am treated differently because of my race	<input type="radio"/>	<input type="radio"/>
I feel insecure here	<input type="radio"/>	<input type="radio"/>
I don't feel a sense of belonging (community) here	<input type="radio"/>	<input type="radio"/>
I am treated differently because of my color	<input type="radio"/>	<input type="radio"/>
It is sad to think about the problems my people face	<input type="radio"/>	<input type="radio"/>
I generally keep a low profile due to fear of other ethnic groups	<input type="radio"/>	<input type="radio"/>
It is really hard for me to establish a home in this new set-up	<input type="radio"/>	<input type="radio"/>
I feel some people don't associate with me because of my ethnicity	<input type="radio"/>	<input type="radio"/>
People from some other ethnic groups show hatred toward me verbally	<input type="radio"/>	<input type="radio"/>
I feel guilty that I am living a different lifestyle here	<input type="radio"/>	<input type="radio"/>
I feel sad leaving my relatives behind	<input type="radio"/>	<input type="radio"/>
I worry about my future for not being able to decide whether to stay here or to go back	<input type="radio"/>	<input type="radio"/>
I find it difficult to know what to do and where to go when I am ill	<input type="radio"/>	<input type="radio"/>



How was your experience adjusting to life at the University of Michigan?
 (0 = Extremely Difficult, 10 = Extremely Easy)

0 = Extremely Difficult 10 = Extremely Easy

0 1 2 3 4 5 6 7 8 9 10



How satisfied are you with the social support you receive on campus?

- Extremely dissatisfied
- Moderately dissatisfied
- Slightly dissatisfied
- Neither satisfied nor dissatisfied
- Slightly satisfied
- Moderately satisfied
- Extremely satisfied

How satisfied are you with the intercultural interactions you have had on campus?

- Extremely dissatisfied
- Moderately dissatisfied
- Slightly dissatisfied
- Neither satisfied nor dissatisfied
- Slightly satisfied
- Moderately satisfied
- Extremely satisfied

	Not at all stressful	Little stressful	Neutral	Stressful	Extremely stressful
Academic exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overload of regular study assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Securing study materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poorly integrated course of study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitive academic atmosphere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excessive amount of course assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of time to pursue hobbies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Departmental office bureaucracy (i.e. long lines, forms and documentation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning new study material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor academic instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uncomfortable physical conditions (study halls, chairs, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Conflict between work and study demands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excessive amount of material to study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studies do not meet personal expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to keep up with new professional developments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor faculty-student relations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excessive daily time constraints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making changes in course of study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Study/classes after hard day's work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presenting an oral report in front of a class/group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changing major(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Failing a course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Coping with academic material after long respite (pause/break) from previous studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meeting deadlines in submitting papers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty in receiving good grades (in comparison to high-school)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preparing study schedule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much academic pressure do you feel from your parents?

- None
 - Mild
 - A lot
 - An overwhelming amount
-

How much academic pressure do you feel from the culture you grew up in?

- None
- Mild
- A lot
- An overwhelming amount

Are you aware of any mental health resources on or off of the University of Michigan's campus?

- No
- Yes (specify) _____

Have you utilized any mental health resources on or off of the University of Michigan's campus?

- No
- Yes, on campus (specify) _____
- Yes, off campus (specify) _____

Would you feel comfortable utilizing mental health resources if you needed them?

- Definitely yes
 - Probably yes
 - Might or might not
 - Probably not
 - Definitely not
-

Please provide an explanation for your answer to the previous question

	Disagree	Undecided	Agree
Most people would be willing to accept someone with former mental health issues as a close friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people believe that people with mental health issues are just as intelligent as the average person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people believe that people with mental health issues are just as trustworthy as the average citizen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people would accept a fully recovered person with former mental health issues as a teacher of young children in public school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people feel that entering mental health treatment is a sign of personal failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people would not hire people with mental health issues to take care of their children, even if she or he had been well some time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people think less of a person who had been in mental health treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Most employers will hire a person with former mental health issues if he or she is qualified for the job

Most employers will pass over the application of a former mental health patient in favor of another applicant

Most people in my community would treat a person with mental health issues just as they would treat anyone else

Most people would be reluctant to date another person who had been hospitalized or treated for a serious mental disorder

Once they know a person underwent mental health treatment, most people will take their opinion less seriously



Please respond to the following items

	Strongly Disagree	Disagree	Agree	Strongly Agree
People with mental health issues could be reliable friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is dangerous for people with mental health issues to live freely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with mental health issues should have no children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with mental health issues should be isolated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with mental health issues should not have the right to vote	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with mental health issues will be stigmatized all their life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>